

Collation of the Results of the 2023 Aggregate Minerals Survey for Great Britain

*Decarbonisation and Resource Management Programme
Open Report OR/25/002*

BRITISH GEOLOGICAL SURVEY

DECARBONISATION AND RESOURCE MANAGEMENT PROGRAMME
OPEN REPORT OR/25/002

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Collation of the results of the 2023 Aggregate Minerals Survey for Great Britain

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Contents

Acknowledgements	ii
Contents	iii
1 Introduction.....	1
1.1 Policy background.....	1
1.2 AM2023 Survey	2
1.3 Confidentiality	3
1.4 Survey coverage	3
2 National overview	5
2.1 Sales	5
2.2 Consumption	6
2.3 National flows.....	6
2.4 Reserves.....	7
3 Sales of primary aggregates	7
3.1 Sales	7
3.2 Comparison with 2019	8
4 End Uses.....	10
4.1 All primary aggregates	10
4.2 Sand and gravel.....	10
4.3 Crushed rock.....	10
4.4 Non-Aggregate uses	10
5 Inter-regional flows	11
5.1 Crushed rock.....	11
5.2 Sand and gravel.....	12
5.3 Comparison with 2019	12
6 Consumption	12
6.1 Comparison with 2019	13
7 Mode of transport	13
8 Reserves	13
8.1 Comparison with 2019	14
8.2 Distribution of reserves	14
9 Environmentally designated areas	15
9.1 Sales	15
9.2 Reserves.....	16
10 Secondary aggregates	16
11 Planning permissions and refusals.....	16
12 AM2023 national collation tables.....	38
12.1 General notes on the tables.....	38

Appendix A - Sales.....	133
Appendix B – Permitted reserves.....	140
Appendix C – Planning permissions.....	146
Appendix D – Comparison with previous AM surveys.....	165
Appendix E – Comparison with AM2001, AM2005, AM2009, AM2014, AM2019 and AM2023 surveys	172
Appendix F – Survey forms A and B	181
Appendix G – Glossary of terms and abbreviations	182
Appendix H – Bibliography	187
Appendix I – Aggregate Working Parties: Secretaries (current as of March 2024).....	189
Appendix J – Members of the AM2023 National Collation Steering Group.....	190
Appendix K – AM2019 project team.....	191
Appendix L – Mineral Planning Authorities within Aggregate Working Party regions and destination sub-regions, England and Wales in 2023	192
Appendix M – Local Planning Authorities and AM2023 regions in Scotland.....	198

MAPS

Map 1 Mineral Planning Authorities and Aggregate Working Party regions, England and Wales.....	19
Map 2 Local Planning Authorities and AM2023 regions, Scotland	20
Map 3 Location of active sand and gravel quarries included in the survey	21
Map 4 Location of active crushed rock quarries included in the survey	22
Map 5 AM2023 destination sub-regions, England and Wales	23
Map 6 Sales of sand and gravel and crushed rock for primary aggregates, 2023, England and Wales	24
Map 7 Sales of sand and gravel and crushed rock for primary aggregates, 2023, Scotland.....	25
Map 8 Consumption of sand and gravel and crushed rock for primary aggregates, 2023, England and Wales.....	26
Map 9 Consumption of sand and gravel and crushed rock for primary aggregates, 2023, Scotland.....	27
Map 10 Sand and gravel inter-regional flows of primary aggregates, 2023, England and Wales.....	28
Map 11 Sand and gravel inter-regional flows of primary aggregates, 2023, Scotland	29
Map 12 Crushed rock inter-regional flows of primary aggregates, 2023, England and Wales	30
Map 13 Crushed rock inter-regional flows of primary aggregates, 2023, Scotland..	31

Map 14 Permitted reserves of primary aggregates in England and Wales – active and inactive sites, 2023	32
Map 15 Permitted reserves of primary aggregates in Scotland – active and inactive sites, 2023	33
Map 16 Sales and consumption of primary aggregates, 2019, England and Wales	34
Map 17 Sales and consumption of primary aggregates, 2023, Scotland	35

FIGURES

Figure 1 Planning permission expiry dates for active quarries in Great Britain, 2023	36
Figure 2 Planning permission expiry dates for active sand and gravel quarries, 2023	36
Figure 3 Planning permission expiry dates for active crushed rock quarries, 2023	37

1 Introduction

Aggregate Minerals (AM) surveys provide an in-depth and up-to-date understanding of national and sub-national sales, inter-regional flows, transportation, consumption and permitted reserves of primary aggregates. The results of these surveys provide comprehensive data for monitoring and facilitating aggregates provision at local, regional and national level. The output is used mainly by government, planning authorities, industry and environmental interest groups. The surveys are used to inform the development of minerals policy in respect of the production, movement and consumption of aggregates. The collated data are made publicly available.

Traditionally, AM surveys in England and Wales have been undertaken separately to those for Scotland. Surveys in England and Wales have normally been undertaken at four-yearly intervals since 1973, while those in Scotland have been undertaken more irregularly and often for different years. Surveys for all three countries were, however, undertaken for 2019 (AM2019) but that for Scotland via a separate process to the survey for England and Wales. AM2019 was the first time since 2005 when all three countries used the same survey year. AM2023 is the first survey to incorporate all three countries at the same time, following the same process, thereby allowing data to be presented for Great Britain as a whole.

This report and the accompanying data tables present the collation of the data for primary aggregates for 2023. In addition to presenting information on regional and national sales, consumption and permitted reserves of primary aggregates, the report also summarises the movement and consumption of primary aggregates by sub-region in England and Wales. Information is also presented on the quantity of aggregate minerals granted and refused planning permission and planning applications withdrawn between 2020 and 2023. In addition, information is presented on the quantity of aggregate minerals in planning applications submitted between 2020 and 2023 which were awaiting a decision at 31 December 2023.

The information is presented for Great Britain, England, Wales and Scotland, for individual regions and, where relevant, sub-regions. It was collected from aggregates producers (reserves, sales and sales by destination) and Mineral Planning Authorities (MPAs) in England and Wales / Local Planning Authorities in Scotland (planning permissions) using standard survey forms. The information submitted via these forms was collated by the British Geological Survey (BGS) on behalf of the Ministry of Housing, Communities and Local Government (MHCLG), the Welsh Government and the Scottish Government.

The British Geological Survey (BGS) was commissioned in November 2023 by MHCLG to implement the AM2023 survey and to collate, interpret and report the results. The study was overseen by a Steering Group, which included representatives of MHCLG, the Welsh Government, the Scottish Government, Aggregate Working Parties (England) and Regional Aggregate Working Parties (Wales)¹ and the aggregates industry.

1.1 POLICY BACKGROUND

The key government objectives and planning policies on minerals in England are set out in the *National Planning Policy Framework* (2024). The NPPF is accompanied by

¹ AWP is used throughout the national collation to encompass Aggregate Working Party (England) and Regional Aggregate Working Party (Wales). Scotland does not have Aggregate Working Parties.

planning practice guidance for which that on mineral extraction in plan making and the application process was published in 2014. *Planning Policy Wales* (2024) sets out the land-use planning policy of the Welsh Government in relation to minerals extraction and development in Wales. Minerals Technical Advice Note 1: *Aggregates* (2004) sets out detailed advice on the mechanisms for delivering policy specifically for land-based aggregates extraction in Wales by MPAs and the aggregates industry. For Scotland, the National Planning Framework 4 (NPF4, 2023) details the long term planning strategy for the country to 2045 and includes national planning policies for minerals.

The results of the AM2023 survey will be used:

- to inform all stakeholders of the current state of aggregates supply;
- to monitor and develop planning policies for the supply of aggregates in England, Wales and Scotland;
- by planning authorities to monitor the supply of aggregates in the local area; this includes the preparation of Local Aggregates Assessments (LAAs) by MPAs in England, which are annual assessments of the demand for, and supply of, aggregates in their areas; and
- as a source of contextual data with respect to planning applications for the extraction of aggregates.

1.2 AM2023 SURVEY

The results of the survey were collected using two standard inquiry forms. Form A for quarry operators and Form B for Local / Mineral Planning Authorities (Appendix A). Survey forms were designed in consultation with the project steering group which included representatives from the Mineral Products Association and the British Aggregates Association.

Form A relates to sales by end use, sales by destination and transport method, and permitted reserves of primary aggregates. The form (in Excel format) was forwarded to the following sites for completion by operators/owners:

- all active quarries producing land-won primary aggregates at some time during 2023, either as a principal activity or as a subsidiary activity, such as a by-product of building stone or ancillary to silica sand extraction²;
- inactive sites, either worked in the past or yet to be worked (greenfield), that contain permitted reserves of aggregates;
- marine wharves at which marine-dredged sand and gravel was landed and processed in 2023; and
- marine wharves at which crushed rock from outside England and Wales was landed in 2023.

Form B sought information on the numbers of aggregate mineral planning applications granted or refused planning permission and the numbers of planning applications withdrawn during the period 2020 to 2023, the numbers of planning applications awaiting a decision at 31 December 2023, and the quantity of mineral contained within these permissions or applications. Form B was completed by individual L/MPAs. This survey provides valuable information on the extent that permitted reserves of primary

² While borrow pits are included in the survey, the rate of response was very low. As such, borrow pit output, which can be significant, is not reflected in the data presented.

aggregates are being replenished by new permissions and, in combination with the sales data, the extent that reserves are being depleted.

In preparing this report, the commentary and data have been presented in a style that is, as far as possible, consistent with previous surveys and comparisons with earlier surveys are made where appropriate. Whereas every effort has been made to ensure the accuracy of the figures presented, neither the MHCLG, Welsh Government, Scottish Government or the BGS can be held responsible for any errors contained therein.

Regional collations of the 2023 survey data will also be published in the AWP Annual Reports for England and Wales. These collations are available from the AWP Secretaries (see Appendix H) and contain more detailed information, generally at MPA level.

1.3 CONFIDENTIALITY

Data relating to an individual quarry are normally considered to be confidential. Any figure disclosed must not be able to be ascribed to an individual site unless all the parties involved have been contacted and their prior approval obtained in writing, permitting the release of the information. Both the Mineral Products Association and the British Aggregates Association strongly advised all their members to fully cooperate with the survey. Neither association was able to compel its member companies to complete the survey.

1.4 SURVEY COVERAGE

The AM2023 survey refers to ‘sales’ of aggregates. The term relates to material leaving a quarry/wharf as measured at a weighbridge. The term ‘sales’ is more accurate than ‘production’ as used in some previous surveys prior to AM97. However, as weighbridge sales were the main source of statistics on ‘production’ in previous surveys, readers should not draw any statistical inferences from the change in terminology.

There are 161 authorities in England and 25 in Wales designated as MPAs (Map 1) while in Scotland 32 LPAs and the two national parks have responsibility for mineral planning (Map 2). However, a number of unitary authorities (London boroughs, metropolitan districts and a few rural authorities) are either totally urban or have no mineral workings for aggregates. Excluding planning authorities with no aggregate mineral workings, data were collected for 150 authorities in Great Britain.

The survey presents data for **917** quarries, of which **187** were inactive but worked in the past and a further **31** sites which have yet to be worked. Of the 699 active quarries surveyed, 358 were for crushed rock and 341 for land-won sand and gravel. The survey also included 63 wharves at which marine sand and gravel was landed and 27 wharves landing crushed rock. Some wharves landed both sand and gravel and crushed rock. The distribution of the sites surveyed is shown in Maps 3 and 4 of this report and Table 22.

Sales and distribution data relate to 2023 and the permitted reserves were estimated at 31 December 2023. For England and Wales, the information is presented by Aggregate Working Party Area (Map 1). For Scotland, information is presented by the same geographical areas used for the previous (2019) survey (Map 2). The choice of geographical areas used in Scotland aims to support development planning policy while also recognising the difficulties of defining market areas in a country like Scotland, with considerable variation in population density and geology. The areas are therefore used solely for the purposes of this survey and are not intended to reflect “market” areas. The intention is to provide the statistics necessary to inform the planning process without breaching commercial confidentiality.

Data on the movement of aggregates were collected on the basis of sub-regional flows. The sub-regions used for AM2023 are shown on Map 5. Following requests from several AWP's in England, the destination sub-regions used for AM2023 differ to those of AM2019. Changes involved splitting previously used sub-regions into two so that comparisons with previous surveys remains possible.

Data are presented on sand and gravel, both land-won and marine-dredged, and crushed rock aggregate. The latter includes limestone (including dolomite), igneous rock (including metamorphic rock), sandstone (including gritstone, greywacke and quartzite), chalk and ironstone. Both chalk and ironstone are used in some regions for less demanding aggregate applications. However, they contribute less than 0.2% to total supply. As in conventional practice, landings of marine sand and gravel are assigned to the MPA in which the wharf is located.

Both the Mineral Products Association and the British Aggregates Association supported the survey. The rate of return of Form A was high for this voluntary survey with returns for 78%³ of active sites in Great Britain being received. Where figures were not forthcoming, and where feasible, estimates have been made by Mineral Planning Authorities or, for Scotland, the BGS. At a Great Britain level, the proportion of estimates made was low representing 7.6% of total sales tonnage, 4.4% of total reserves tonnage and 11.4% of sales by destination tonnage (used to calculate consumption) respectively. Broken down by country, the response rate by number of active sites and the use of estimates equates to:

- England:
 - Response rate by number of active sites – 90%
 - Use of estimates – 7.3% of sales, 6.0% of reserves, 11.3% of sales by destination
- Wales:
 - Response rate by number of active sites – 78%
 - Use of estimates – 10.2% of sales, 3.3% of reserves, 9.4% of sales by destination
- Scotland:
 - Response rate by number of active sites – 46%
 - Use of estimates – 7.7% of sales, 1.0% of reserves, 13.2% of sales by destination

Interpreting the comprehensiveness of the results presented on the basis of response rates by number of sites alone should be undertaken with caution. A single high output site not submitting a return in a particular L/MPA will have a far greater impact on survey results than the cumulative effect of missing returns from several sites with much smaller annual sales.

Following the cessation of the statutory Annual Minerals Raised Inquiry (AMRI) undertaken by the Office for National Statistics in 2015 (after publication of the 2014 results), it has not been possible to independently verify the sales data collected by AM2023 with any official dataset. However, the Mineral Products Association, which represents about 90% of the aggregates industry in Great Britain, undertakes annual surveys of its members. For 2023 the Mineral Products Association report total sales (excluding imports) of primary aggregates in Great Britain of 159.8 Mt (comprising 118.5 Mt for England, 17.1 Mt for Wales and 24.3 Mt for Scotland). Corresponding sales

³ Response rates have been estimated by comparing the number of sites providing a survey return with the total number of aggregates sites understood by the BGS as being active during 2023 in England (572 quarries, 84 wharves), Wales (82 quarries, 10 wharves) and Scotland (262 quarries).

in Great Britain reported by the AM2023 survey (which includes imports) were 164.9 Mt when rounded (comprising 127.8 Mt for England, 15.3 Mt for Wales and 21.7 Mt for Scotland). This comparison provides a degree of confidence in the veracity of the AM2023 results.

The main constraints on the results reported by the AM surveys continue to be confidentiality considerations and 'unallocated sales' of unknown destination. At 2.5 Mt for all of Great Britain, total unallocated sales for AM2023 are lower than the total 4.2 Mt reported for the previous corresponding AM surveys (2019) for England and Wales (3.3 Mt) and Scotland (0.9 Mt) (Table 2b).

2 National overview

Sales, consumption, and inter-regional flows of primary aggregates by country and by region are summarised in Tables 1 to 8. Tables 9 to 11 provide, respectively, an overview of sales by L/MPA and sub-region, imports by sub-region and consumption by sub-region. Permitted reserves of aggregates at 31 December 2023 by country, region and by environmental designation are summarised in Tables 12 and 13. The number of planning applications granted and refused permission to supply wholly, or in part, aggregate minerals, and the amount of mineral that these contained are summarised in Tables 14 and 15. Those awaiting a decision or whose planning application has been withdrawn are summarised in Tables 16 and 17. Data on the proportion of total reserves being allocated to non-aggregate uses in planning applications (where such a differentiation could be deduced by L/MPAs) were also collected and are presented in Tables 18 to 21. More detailed information on sales, reserves and planning permissions/refusals are presented in Appendices A to C, respectively. A comparison of sales, consumption and permitted reserves of primary aggregates with previous AM surveys is given in Appendix D and, in relation to the modern regions used for all the surveys in England and Wales since AM2001, Appendix E.

2.1 SALES

Total sales of primary aggregates produced in Great Britain, including marine-dredged sand and gravel, but not imports of aggregates from outside Great Britain, were **164.9 Mt** in 2023. **Total sales decreased by about 2% between 2019 (168.9 Mt) and 2023 (164.9 Mt)**. Of total sales in Great Britain, 127.8 Mt was produced in England, 21.7 Mt in Scotland and 15.3 Mt in Wales.

In **England and Wales**, total sales of primary aggregates, including marine-dredged sand and gravel, but not imports of aggregates from outside England and Wales, were **143.1 Mt** in 2023 of which **89%** was produced in England. **Total sales decreased by about 3% between 2019 (148.1 Mt) and 2023 (143.1 Mt)**, with land-won sand and gravel showing the largest decrease (10%) from **40.9 Mt** in 2019 to **36.7 Mt** in 2023. Sales of crushed rock decreased (4%) from **95.8 Mt** in 2019 to **92.1 Mt** in 2023.

Reported total sales of marine-dredged sand and gravel increased (25%) from **11.4 Mt** in 2019 to **14.3 Mt** in 2023. However, it was recognised that such sales were under-reported in AM2019 due to missing wharf returns (see corresponding survey results). In comparison, total landings of marine sand and gravel as reported by The Crown Estate **increased** by 1% from 13.4 Mt in 2019 to 13.5 Mt in 2023. Total landings of marine-dredged sand and gravel reported by The Crown Estate will not all have been sold in 2023. They also exclude minor amounts of sand and gravel dredged outside of British waters landed at wharves. Despite these caveats, The Crown Estate landing statistics

provide a better indicator of the proportional change in sales of marine-dredged sand and gravel between 2019 and 2023.

Marine sand and gravel supplied about 27% of total sand and gravel output in England, compared with 44% in Wales. No marine-dredged sand and gravel was landed in Scotland.

In **Scotland**, total sales of primary aggregates were 21.7 Mt in 2023, an increase of 4% from 2019 (20.8 Mt).

Total primary aggregates sales in Great Britain for 2023, comprised (when rounded) 25% land-won sand and gravel, 9% marine-dredged sand and gravel, with crushed rock making up the remaining 66%.

Primary aggregates sales in England and Wales for 2023, comprised 26% land-won and 10% marine-dredged sand and gravel, with crushed rock making up the remaining 64%. Limestone/dolomite remained by far the most important source of crushed rock aggregate, accounting for 73% of the total, followed by igneous rock (19%), sandstone (8%), and minor chalk and ironstone (<0.5%).

In Scotland, primary aggregate sales comprised 19% land-won sand and gravel and 81% crushed rock. Igneous rock is the most important source of primary aggregates in Scotland. It accounted for 91% of total crushed rock sales in 2023, with sandstone (6%) and limestone (3%) comprising the remainder.

In Great Britain 7.4% of total crushed rock sales and 1.2% of land-won sand and gravel sales were supplied from National Parks. National Landscapes (England and Wales) and National Scenic Areas (Scotland) have equivalent status in planning. Of total crushed rock sales in Great Britain, 4.0% were supplied from these environmental designations along with 2.6% of land-won sand and gravel sales.

Of total crushed rock sales in England and Wales, 8.8% and 4.7% were supplied from National Parks and National Landscapes respectively, while for land-won sand and gravel the proportion of total sales supplied from these environmental designations were 0.5% and 2.8%. In Scotland, 0.5% of crushed rock sales were supplied from National Parks and National Scenic Areas (combined) with the equivalent sales for land-won sand and gravel being 7.1%.

National Parks and National Landscapes (England and Wales) / National Scenic Areas (Scotland) cover 24.0% of the land area of England, 24.4% of Wales and 21% of Scotland.

2.2 CONSUMPTION

The AM surveys are the only comprehensive measurement of apparent consumption of primary aggregates (see glossary - aggregate consumption) by region and sub-region.

Total apparent consumption of primary aggregates in Great Britain was **164.0 Mt** in 2023, of which 137.1 Mt was used in England, 15.5 Mt in Scotland and 11.5 Mt in Wales. Total consumption should be somewhat higher than total sales because it includes imports from outside Great Britain. Total **unallocated sales** of unknown destination were **2.5 Mt in 2023**. Taking into account unallocated sales, the total consumption of primary aggregates in Great Britain was about **166.5 Mt** in 2023.

2.3 NATIONAL FLOWS

England was a net importer of primary aggregates (11.7 Mt), while Wales (3.9 Mt) and Scotland (6.2 Mt) were net exporters. Some 8.2 Mt were imported into England and Wales from Scotland (3.6 Mt) and outside of Great Britain (4.6 Mt).

Almost all of this was crushed rock (mainly igneous rock) imported into the South East, London and the East of England principally from Scotland and Norway, but with small quantities from Northern Ireland and France.

Total exports of land-won primary aggregates from Great Britain were 2.6 Mt in 2023 (of which 0.06 Mt were from England and Wales). 4.1 Mt of marine sand and gravel dredged from the UK Continental Shelf was landed at foreign ports in 2023 (Source: The Crown Estate). A further 1.2 Mt of marine-dredged sand and gravel were used for contract fill and beach nourishment (Source: The Crown Estate). Landings of marine-dredged sand and gravel at foreign ports and that used for contract fill and beach nourishment are not covered by AM surveys.

2.4 RESERVES

Total permitted reserves of aggregate in active and inactive sites in Great Britain, including sites worked in the past but still containing reserves (but not dormant sites) and sites that have yet to be opened, at the end of 2023 were **5,106 Mt**. Crushed rock accounted for **90% (4,589 Mt)** and sand and gravel the remaining **10% (518 Mt)**. Of total permitted reserves, 84% were in active sites and 61% in England, 26% in Scotland and 12% in Wales.

Sites classified as 'Dormant' under the terms of the Planning & Compensation Act 1991 and the Environment Act 1995 or under the terms of the Environment Act 1995 re-enacted in the Town and Country Planning (Scotland) Act 1997, contained **223 Mt**. These tonnages are separately identified in Table 12, but are excluded from the totals. Dormant sites cannot be worked until new schemes of planning conditions have been determined and, therefore, do not contain 'permitted reserves'. The data presented on dormant sites cannot be considered complete as some regions have dormant sites where the volume of aggregates contained is unknown.

Total permitted reserves of sand and gravel in Great Britain for non-aggregate use were 38.0 Mt in 2023. Total permitted reserves of crushed rock for non-aggregate use were 370.1 Mt of which 84% was limestone/dolomite. The reported reserves for non-aggregate use, however, does not include all non-aggregate reserves in GB as only those sites producing aggregates are included in the survey.

3 Sales of primary aggregates

Table 2a summarises sales by region and country of origin, and by the major types of primary aggregate, i.e. land-won/marine-dredged sand and gravel and crushed rock. Table A4 summarises sales by mineral type for crushed rock aggregate. Table D1 compares primary aggregate sales for each AM survey since 1973 and, in relation to the modern regions of England and Wales used for the AM2001 survey onwards, Table E1. National and regional sales are also shown on Map 6 for England and Wales and Map 7 for Scotland.

3.1 SALES

In England and Wales, the **East Midlands** continued to be the largest producing region at **31.9 Mt, equivalent to 22%** of total primary **land-won** aggregate **sales in these countries**. The **South West (26.4 Mt, 18%)** was the second largest source of land-won primary aggregates. Excluding London, North Wales (5.9 Mt) and the North East (7.3 Mt) were the smallest producing regions of land-won primary aggregates.

Within these totals, the sand and gravel, and crushed rock balance differs significantly. The **East Midlands** accounted for the largest volume of **crushed rock aggregate sales (26.9 Mt, 29%)**, slightly larger than the **South West (23.7 Mt, 26%)**. Of total sand and gravel (including marine-dredged sales) in England and Wales, the **South East (11.9 Mt, 23%)** and the **East of England (10.7 Mt, 21%)** accounted for the highest proportion. Marine-dredged sand and gravel as a proportion of regional sand and gravel sales was, however, 59% (7.0 Mt) in the South East compared with only 5% (0.5 Mt) in the East of England.

The North East (**0.9 Mt**), North Wales (**0.8 Mt**), Greater London (**0.5 Mt**) and South Wales (**0.1 Mt**) produced the smallest amounts of land-won sand and gravel. Conversely, East of England (**0.1 Mt**) and the South East (**2.4 Mt**) were the smallest crushed rock producers. There is no crushed rock production in London.

The balance between sand and gravel and crushed rock production largely reflects the underlying geology and hence aggregate resources in these areas. Regions with large crushed rock resources and permitted reserves (East Midlands and South West) and which are relatively close to major markets, continue to contribute substantially to the high levels of demand in more populated regions, notably London and the South East (where sand and gravel dominates and hard rock is scarce) and also the North West.

The South West was the largest producer of limestone for aggregate use at **21.1 Mt** (31% of total limestone sales in England and Wales) followed by the East Midlands with **18.3 Mt** (27%). The East Midlands accounted for 48% (**8.3 Mt**) of total igneous rock aggregates sales making it, by far, the largest producer in England and Wales.

Highland is the largest producing region in **Scotland** at 6.3 Mt, equivalent to 29% of total primary land-won aggregates sales in **Scotland**. West Central Scotland (4.8 Mt, 22%) was the second largest source of land-won primary aggregates. Within these totals, the sand and gravel, and crushed rock balance differs significantly. Highland accounted for the largest volume of total crushed rock aggregate sales in Scotland (6.1 Mt, 34%), followed by West Central Scotland (3.9 Mt, 22%). The large coastal quarry at Glensanda will significantly influence the figures in Highland. Of total sand and gravel sales in Scotland, East Central Scotland (1.2 Mt, 30%) and West Central Scotland (0.9 Mt, 22%) accounted for the highest proportion.

3.2 COMPARISON WITH 2019

The table below presents the comparison of sales of primary aggregates in 2019 and 2023. **Land-won sand and gravel sales in England decreased by 10%** between 2019 (39.7 Mt) and 2023 (35.8 Mt) whilst **sand and gravel sales for Wales decreased by about 18%** between 2019 (1.2 Mt) and 2023 (1.0 Mt). Sand and gravel sales in Scotland increased by about 9% between 2019 (3.7 Mt) and 2023 (4.1 Mt).

Crushed rock sales in England decreased by 5% between 2019 (83.0 Mt) and 2023 (78.5 Mt) but **increased by 6% in Wales** (12.8 Mt in 2019 versus 13.6 Mt in 2023). In **Scotland**, crushed rock sales increased by **3%** during the same period (17.0 Mt in 2019 versus 17.6 Mt in 2023).

Comparison of sales of primary aggregates in 2019 and 2023

Thousand tonnes

Region	Land-won sand and gravel			Marine sand and gravel			Total sand and gravel			Crushed rock			Total primary aggregate		
	2019	2023	% change	2019	2023	% change	2019	2023	% change	2019	2023	% change	2019	2023	% change
South West	2,870	2,254	-21%	563	512	-9%	3,433	2,766	-19%	25,321	23,672	-7%	28,754	26,438	-8%
South East	6,311	4,904	-22%	4,893	7,016	43%	11,205	11,920	6%	2,026	2,375	17%	13,231	14,295	8%
London	475	514	8%	4,237	3,893	-8%	4,711	4,407	-6%				4,711	4,407	-6%
East of England	10,774	10,145	-6%	350	549	57%	11,125	10,694	-4%	104	123	18%	11,229	10,817	-4%
East Midlands	7,063	4,968	-30%				7,063	4,968	-30%	29,164	26,921	-8%	36,227	31,889	-12%
West Midlands	6,476	7,973	23%				6,476	7,973	23%	4,919	4,022	-18%	11,395	11,995	5%
North West	2,238	1,440	-36%	97	286	195%	2,335	1,726	-26%	6,466	5,800	-10%	8,801	7,526	-14%
Yorkshire & the Humber	2,312	2,632	14%		357		2,312	2,989	29%	9,546	10,189	7%	11,858	13,178	11%
North East	1,187	933	-21%	633	935	48%	1,820	1,869	3%	5,468	5,383	-2%	7,289	7,252	-1%
England	39,708	35,763	-10%	10,773	13,549	26%	50,480	49,311	-2%	83,015	78,485	-5%	133,495	127,797	-4%
South Wales	181	126	-30%	608	749	23%	789	876	11%	8,310	8,575	3%	9,099	9,451	4%
North Wales	999	844	-16%	22	8	-64%	1,021	851	-17%	4,522	5,039	11%	5,543	5,890	6%
Wales	1,180	970	-18%	630	757	20%	1,810	1,727	-5%	12,832	13,613	6%	14,642	15,341	5%
England and Wales	40,887	36,733	-10%	11,403	14,306	25%	52,290	51,039	-2%	95,847	92,099	-4%	148,137	143,138	-3%
Argyll & Bute	c	c	n/a				c	c	n/a	c	c	n/a	c	122	n/a
Ayrshire Authorities	290	286	-1%				290	286	-1%	2,153	1,906	-11%	2,443	2,192	-10%
Comhairle nan Eilean Siar	3	2	-33%				3	2	-33%	229	158	-31%	231	160	-31%
Dumfries & Galloway	407	337	-17%				407	337	-17%	165	655	297%	572	992	73%
East Central Scotland	739	1,211	64%				739	1,211	64%	2,142	2,432	14%	2,880	3,642	26%
Forth Valley	c	c	n/a				c	c	n/a		c	n/a	c	993	n/a
Highland	314	213	-32%				314	213	-32%	7,191	6,080	-15%	7,505	6,293	-16%
North East Scotland	482	324	-33%				482	324	-33%	1,124	808	-28%	1,606	1,131	-30%
Orkney & Shetland Islands	0	0					0	0		131	186	42%	132	187	42%
Tay area	441	504	14%				441	504	14%	434	692	59%	875	1,196	37%
West Central Scotland	1,059	880	-17%				1,059	880	-17%	3,477	3,924	13%	4,536	4,804	6%
Scotland	3,735	4,089	9%				3,735	4,089	9%	17,045	17,625	3%	20,780	21,714	4%
Great Britain	44,623	40,822	-9%	11,403	14,306	25%	56,025	55,128	-2%	112,892	109,724	-3%	168,917	164,851	-2%

1. Crown Estate landings of marine sand and gravel (not all sold) were 13.4 Mt in 2019 and 13.5 Mt in 2023.
2. For 2019, Ayrshire Authorities includes Argyll and Bute, Tay area includes Forth Valley.
3. Table designed to be printed at A3 page size.

4 End Uses

Two main categories of end use data were collected. These categories distinguish between aggregate uses and non-aggregate or 'industrial' uses, where the latter are associated with aggregates extraction. The AM2023 survey covered only those sites that produced aggregates for sale, either as the principal or as an ancillary activity. Quarries extracting aggregate minerals solely for non-aggregate applications were not surveyed. The rationale for collecting some information on non-aggregate uses is that in certain circumstances the associated permitted reserves could alternatively be deployed to meet demand for aggregates.

Table 6 shows sales of primary aggregates (both crushed rock and sand and gravel) grouped into broad end use product categories. Tables A1, A2 and A3 in Appendix A provide sales by product for land-won sand and gravel, marine-dredged sand and gravel and crushed rock, respectively. End use figures should be treated with some caution. Although quarry operators will know what products they sell, they cannot always be sure what a product will ultimately be used for.

4.1 ALL PRIMARY AGGREGATES

Of total aggregate sales in Great Britain in 2023, 27% were used as concreting aggregate, 23% as roadstone (coated as asphalt and uncoated), 23% were used as other screened and graded aggregates, and 20% for other construction uses, including fill. The remainder is split between building/asphalting sand, railway ballast, and armourstone.

4.2 SAND AND GRAVEL

Concreting aggregate is the largest product for both land-won and marine-dredged **sand and gravel**. It accounted for some **50% of land-won** and **60% of marine-dredged** sales for aggregate use in Great Britain, respectively. The other main products were, other screened and graded gravels, sand suitable for use in mortar and sand and gravel for construction fill.

4.3 CRUSHED ROCK

Crushed rock has a wider range of uses including as a source of both coarse and fine **concrete aggregate**, **14% of total crushed rock sales in Great Britain**, **other screened and graded aggregates (30%)** and for **other construction uses, including fill (20%)**. However, its main use is in road construction, both unbound ('dry stone'), primarily for the foundations of roads and bound with either bitumen (to produce 'coated roadstone') or cement in the upper layers. Rocks with high skid resistant properties are required for the wearing course. **Coated roadstone and dry stone** represented the **largest crushed rock aggregate use at 37.8 Mt or 33% of total crushed rock aggregate sales in Great Britain**. Of this total, 14.6 Mt was used as coated roadstone. Other smaller specialist uses, include railway track ballast (1.8 Mt) and armourstone (0.5 Mt).

4.4 NON-AGGREGATE USES

Although the data for non-aggregates uses (mainly limestone/ dolomite) are incomplete (see section 4 above), the most important uses were cement manufacture, other unspecified industrial uses, a flux in iron/steel making and agricultural use (Tables A3 and A5). Recorded **non-aggregate uses of crushed rock** in Great Britain were

12.9 Mt in 2023, of which 96% (12.3 Mt) was limestone/dolomite. The **East Midlands** accounted for **9.0 Mt** (73%) of the limestone/dolomite total for Great Britain.

Sales of land-won sand and gravel (mainly silica sand) for non-aggregate (industrial) uses were 3.4 Mt. In England, the North West was the major producing region, contributing 1.4 Mt followed by the South East (0.8 Mt). East Central Scotland was the major producing region in Scotland, contributing 0.1 Mt. **Total sales of sand and gravel in 2023 for non-aggregate uses will have been higher as these figures do not include sales from quarries extracting sand solely for non-aggregates applications (as such sites are not included in AM surveys).**

5 Inter-regional flows

The four-yearly AM surveys are the only published source of information on aggregate sales by destination. The regions and sub-regions used are shown on Map 2 and Map 5. However, quarry operators cannot always be sure of where their products will be sold, particularly for 'collect' sales. Consequently it has not been possible to allocate all sales of primary aggregates to definite destinations by either region or sub-region. 'Unallocated' sales of unknown destination were 2.5 Mt in 2023 (1.5% of total sales). The inter-regional and sub-regional flow information is used to calculate consumption data and unallocated sales thus have the effect of reducing total consumption.

Maps 10 to 13 illustrate the pattern of inter-regional flows for sand and gravel, and crushed rock aggregate, respectively. The statistical results of the destination survey are presented in Tables 3, 4a-k and 5a-k for regions and Tables 9a-k, 10 and 11 for sub-regions. **Inter-regional flows of crushed rock are significantly larger than for sand and gravel because of the overall larger demand for crushed rock, particularly for roadstone, and because regions such as the South East, London and the East of England have only minor, or inferior quality, crushed rock resources.** In addition, the consistency and extent of some hard rock deposits permits their working on a very large scale, enabling much wider geographical areas to be served economically by rail. The transfer of crushed rock between regions is, therefore, more complex and uneven than for sand and gravel. It reflects the combined pattern of the extent of crushed rock resources and markets / population (demand).

5.1 CRUSHED ROCK

Total exports of crushed rock from **Wales to England were 3.4 Mt** compared with **0.2 Mt** in the opposite direction. Exports of crushed rock from North Wales, a traditional crushed rock exporter were 28% (1.4 Mt) of its crushed rock sales. An equivalent proportion (28%) of crushed rock sales from South Wales were exported.

The traditionally large crushed rock producers in England, the **East Midlands and South West**, have the largest exports representing **49% (13.2 Mt)** and **35% (8.3 Mt)** of their respective total crushed rock sales. The main importing regions were the **South East (8.8 Mt)**, the East of England (6.3 Mt), followed by the North West (6.0 Mt) and London (5.2 Mt).

A significant amount of crushed rock (8.2 Mt) was imported from outside England and Wales, mainly from Scotland and Norway. The largest proportion was landed in the South East (2.1 Mt) and London (2.1 Mt) followed by the East of England (1.9 Mt) and the North West (1.1 Mt).

In **Scotland**, two of the largest crushed rock producing regions, Highland and the Ayrshire Authorities, have the largest exports representing 93% (5.7 Mt) and 56%

(1.1 Mt) of their respective total crushed rock sales. Again, the Highland figures will be strongly influenced by Glensanda which dominates exports. The main importing region was West Central Scotland (1.3 Mt), mainly from the Ayrshire Authorities.

Total exports of crushed rock from Scotland were 6.2 Mt in 2023. Overall, crushed rock exports to England from Scottish quarries were nearly 3.6 Mt. These exports were predominately from Highland with smaller contributions from sites in other regions. At 54%, the largest proportion of the 5.6 Mt crushed rock exports from Highland was to England followed by Europe at 46%.

5.2 SAND AND GRAVEL

Total exports of sand and gravel from Wales to England were 0.7 Mt compared with Welsh imports from England of 0.1 Mt. The leading exporters of sand and gravel were London (1.7 Mt), the East of England (1.3 Mt) and the South East (1.5 Mt). Imports of sand and gravel into the South East (1.5 Mt) approximated exports. Other leading importing regions were London (1.4 Mt), the East Midlands (1.2 Mt) and the East of England (1.2 Mt). The majority of marine-dredged sand and gravel was used within the region where it was landed. The **South East (7.0 Mt) and London (3.9 Mt) dominate marine-dredged sales.**

In Scotland, the leading exporter of sand and gravel was East Central Scotland (0.6 Mt), principally to West Central Scotland, while the leading importing region was West Central Scotland (0.6 Mt). Total exports of sand and gravel from Scotland to England were 0.04 Mt in 2023. These exports were predominately from Dumfries and Galloway with smaller contributions from sites in other regions.

5.3 COMPARISON WITH 2019

Net imports of primary aggregates into England from Wales increased from **3.5 Mt in 2019 to 3.8 Mt in 2023**. Imports of crushed rock from outside England and Wales, mainly Scotland and Norway, have increased from **4.8 Mt in 2019 to 8.2 Mt in 2023**. Scotland does not import any aggregates from outside of Great Britain.

Sales of marine-dredged sand and gravel increased 25% from **11.4 Mt to 14.3 Mt** although much of this perceived increase can be attributed to additional wharves providing returns to the AM2023 survey. As noted previously, total landings of marine sand and gravel as reported by The Crown Estate **increased by 1%** from 13.4 Mt in 2019 to 13.5 Mt in 2023.

6 Consumption

Apparent consumption figures (Tables 2b and 5a-k and Map 8 and Map 9 for regions and Table 11 for sub-regions) are calculated from data on sales within each home region (or sub-region), plus imports from other regions (or sub-regions) and, where appropriate, imports from other countries. The difference between the data for total sales and consumption (Table 1 and Maps 16 and 17) is partly due to imports from outside of Great Britain but also unallocated sales. Table D2 makes a comparison of consumption with all the previous AM surveys and Table E2 for the AWP regions used from AM2001 onwards.

Total recorded apparent consumption of primary aggregates in Great Britain was 164.0 Mt, to which should be added just over **2.5 Mt** of unallocated sales to give **166.5 Mt**. In England and Wales, **the South East at 22.8 Mt was the largest**

consuming region, with the East Midlands (18.9 Mt) and South West (18.8 Mt) both close behind. The largest consuming region in Scotland was West Central Scotland (5.7 Mt) followed by East Central Scotland (3.1 Mt)

In England and Wales, four regions, East Midlands, South West, North Wales and South Wales, were net exporters of aggregates and the remaining seven regions were net importers, to varying degrees. London, the North West, South East, and East of England are the regions which are most heavily dependent upon imports.

In Scotland, five regions are net exporters (Highland, Ayrshire Authorities, Forth Valley, Dumfries and Galloway and East Central Scotland), two have no reported exports or imports (Comhairle nan Eilean Siar and Orkney and Shetland Islands) and the remaining four regions were net importers. Argyll and Bute is the region in Scotland most heavily dependent on imports, followed by Tay Area.

Some caution should be used in interpreting consumption figures as they are calculated from the principal destination of aggregate flows. Final sales, particularly for rail-borne aggregates, may be to other regions. For example, some material transported to the East of England may be finally consumed in London and the South East.

6.1 COMPARISON WITH 2019

Compared with 2019 there has been a small decrease (0.7%) in consumption of primary aggregates in Great Britain from **167.7 Mt to about 166.5 Mt**, including unallocated sales of just over 2.5 Mt.

Apparent consumption (excluding sales to unknown destination) of primary aggregates in England decreased by 1.2% from 138.7 Mt in 2019 to 137.1 Mt in 2023. For Wales, consumption increased by 3.6% from 11.1 Mt in 2019 to 11.5 Mt in 2023 while for Scotland, consumption increased by 13.1% from 13.7 Mt in 2019 to 15.5 Mt in 2023.

7 Mode of transport

Table 8 shows the principal mode of transport employed for the distribution of aggregate sales (for the majority of the journey) from quarries and wharves. Overall, **road** accounted for **84.9 %** of all aggregates moved, **rail transport 11.6%** and shipment by **water 3.5%**. The comparable proportions for 2019 were 85.4%, 10.6% and 4%, respectively.

For crushed rock, the proportion of rail deliveries were **15.9% in 2023**. The use of rail transport in the South West and the East Midlands respectively accounted for 8.6 Mt and 6.7 Mt of all crushed rock aggregate rail forwardings, the main destinations being the East of England, London and the South East. The principal transfers of crushed rock by water were from Scotland to the East of England and South East.

8 Reserves

Table 12 and Maps 14 and 15 summarise reserves of primary aggregates with valid planning permissions at 31 December 2023 in active and inactive sites (otherwise known as 'permitted reserves'). Data for **inactive sites distinguishes between sites worked in the past, but still containing permitted reserves, and sites where planning permission has been granted but extraction has not yet begun**. Reserves in sites classified as '**Dormant**' under the terms of the Planning & Compensation Act 1991 and the Environment Act 1995 or under the terms of the Environment Act 1995 re-

enacted in the Town and Country Planning (Scotland) Act 1997 are reported but are excluded from the totals. Tables B1 to B4 provide more comprehensive data on permitted reserves by mineral type and environmental designation, Table D3 provides a comparison with all previous AM surveys and Table E3 for the AWP regions used from AM2001 onwards.

At the end of 2023 **total permitted reserves in active and inactive sites in Great Britain** for aggregate use were **5,106 Mt** of which crushed rock accounted for **90% (4,589 Mt)**; sand and gravel accounted for the remaining **10% (518 Mt)**.

Total permitted reserves in active sites at the end of 2023 were **4,286 Mt**. Crushed rock accounted for 91% and sand and gravel the remaining 9% of reserves in active sites.

Total permitted reserves in inactive sites were 820 Mt, of which 718 Mt were in sites worked in the past and 103 Mt in sites yet to be worked (greenfield sites). Reserves contained in inactive sites classified as '**Dormant**' were **223 Mt**, of which 220 Mt consisted of crushed rock and 3 Mt sand and gravel.

8.1 COMPARISON WITH 2019

Total permitted reserves in Great Britain have **decreased by 359 Mt (7%)** since 2019 when total reserves for aggregate use were **5,455 Mt**, comprising **4,926 Mt** of crushed rock and **529 Mt** of sand and gravel (excluding reserves for non-aggregate use and tonnages in dormant sites).

Total permitted reserves in active sites (4,286 Mt) show a 2% decrease from 4,382 Mt in 2019. Total permitted reserves in active sand and gravel sites show a 5% decrease from 418 Mt in 2019 to 398 Mt in 2023. Reserves of crushed rock in active sites show a 2% decrease between 2019 (3,964 Mt) and 2023 (3,888 Mt) when rounded to the nearest million tonnes.

In **England and Wales**, total permitted reserves show an apparent 10% **decrease of 396 Mt** since 2019 when total reserves for aggregate use were **4,157 Mt**, comprising **3,697 Mt** of crushed rock and **460 Mt** of sand and gravel (excluding reserves for non-aggregate use and tonnages in dormant sites).

Total permitted reserves in **Scotland** show an apparent 4% **increase of 47 Mt** since 2019 when total reserves for aggregate use were **1,298 Mt**, comprising **1,229 Mt** of crushed rock and **69 Mt** of sand and gravel (also excluding reserves for non-aggregate use and tonnages in dormant sites).

8.2 DISTRIBUTION OF RESERVES

The distribution of reserves is very uneven reflecting broadly both geology and demand (Maps 14 and 15). Of total reserves in Great Britain, 61% were in England, 26% were in Scotland and the remainder in Wales.

Some **30% of all permitted reserves** in England and Wales were located in the **East Midlands** (compared with 22% of total England and Wales sales), and **20%** in the **South West** (compared with 18% of total sales). These two regions also accounted for a significant proportion of total crushed rock reserves in England and Wales (**1,144 Mt or 34%**, and **719 Mt or 22%** respectively). Excluding London, in England and Wales, the regions with the smallest crushed rock reserves were East of England (4 Mt) and the South East (21 Mt). This reflects the extent of crushed rock resources in the respective regions.

In England and Wales, **East of England** was the region with the highest level of sand and gravel reserves (**121 Mt**) equivalent to **28%** of the sand and gravel total. Other English regions with significant sand and gravel reserves were the West Midlands (**91 Mt**), East Midlands (**61 Mt**), and the South East (**51 Mt**). Only **3%** (14 Mt) of total sand and gravel reserves in England and Wales were in Wales.

In Scotland, some 54% of all permitted reserves were located in Highland (compared with 29% of total sales in Scotland), 12% in West Central Scotland (compared with 22% of total sales), and 11% in North East Scotland (compared with 5% of total sales). These three regions also accounted for a significant proportion of total crushed rock reserves (723 Mt or 57%, 146 Mt or 12%, and 137 Mt or 11% respectively).

East Central Scotland was the region with the highest level of sand and gravel reserves (35 Mt) equivalent to 44% of the sand and gravel total in Scotland. With 17 Mt, equivalent to 20% of the sand and gravel total, West Central Scotland also accounted for a significant proportion of sand and gravel reserves in Scotland. Between them, these two regions accounted for 64% of all sand and gravel reserves in Scotland.

9 Environmentally designated areas

Systematic information on aggregates sales and reserves in statutorily designated areas was collected and is presented in Tables 7 and 13 respectively. In AM2019 data collection for National Nature Reserves (NNRs) was introduced. However, minimal responses were received in relation to this and therefore results were not presented. Similarly, minimal information relating to NNRs was received in AM2023, however that received has been presented. Apart from National Parks and National Landscapes (England and Wales), data for other **designated areas are not mutually exclusive**. For example, Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) are also (Sites of Special Scientific Interest (SSSIs) and all may occur in National Parks and National Landscapes / National Scenic Areas. As a consequence, the different categories cannot be totalled. However, corresponding figures for 'All Sites' (land-won sites both in and outside such areas) are given to allow the figures to be placed in context.

Some designations, notably SSSIs, may only coincide with a small part of an extant mineral permission, which may, or may not, be active. The degree of overlap and the actual or potential impacts of mineral extraction on the conservation interest, whether geological or biological, will vary and cannot be calculated or assumed from the figures presented. In addition, legal agreements may already exist which protect these designations from quarrying. Therefore, this information needs to be treated with caution.

9.1 SALES

Sales of crushed rock from sites within National Parks and National Landscapes (England and Wales) / National Scenic Areas (Scotland) were 8.1 Mt and 4.4 Mt respectively, 7% and 4% of total crushed rock sales in Great Britain. Comparable figures for land-won sand and gravel were 0.5 Mt and 1.0 Mt, this comprises 1% and 3% of total land-won sand and gravel sales.

Some **23 Mt of primary land-won aggregates in Great Britain** were produced from sites associated with **SSSIs**. Such sites accounted for 19% of crushed rock aggregate sales and 5% of total land-won sand and gravel sales. In contrast sales from sites located within Green Belts were 6.3 Mt of crushed rock and 5.8 Mt of sand and gravel.

At a regional level, **40% (3.3 Mt) of crushed rock quarried in National Parks in England and Wales was produced in the East Midlands**. This mostly comprises limestone quarried from within the Peak District National Park. Elsewhere, **National Parks in Yorkshire & the Humber accounted for a further 34% (2.8 Mt)**. The largest sales of crushed rock aggregates from **National Landscapes in England and Wales** (2.8 Mt, 64%) were from the South West.

Of total sales of aggregates (sand and gravel and crushed rock) in Scotland, 1.7% (0.37 Mt) was from National Parks and National Scenic Areas. Total sales of aggregates from quarries associated with SSSIs were 0.27 Mt. Sales from sites associated with Green Belt were 0.38 Mt.

9.2 RESERVES

Total reserves of aggregates in sites within **National Parks (308 Mt)** and **NLs / NSAs (293 Mt)** were both **6%** respectively of total permitted reserves in Great Britain. Of total reserves in National Parks and NLs / NSAs (601 Mt), crushed rock reserves accounted for some 95%, reflecting the upland nature of these designations due to the presence of more resistant rock types. Total reserves in Great Britain of sand and gravel, and crushed rock in National Parks and NLs / NSAs for non-aggregate use were 81 Mt in 2023.

Total aggregate reserves in sites in part associated with **SSSIs** were **810 Mt or 16%** of the total for Great Britain. They consist almost entirely (96%) of crushed rock. However, in many cases only a small part of a mineral permission may occur within an SSSI, whilst reserves relate to the whole site area permitted for extraction. These figures should, therefore, be treated with caution. **Total reserves in Green Belts were 242 Mt**, comprising **162 Mt** of crushed rock and **77 Mt** of sand and gravel.

10 Secondary aggregates

The AM2023 survey was not confined to primary aggregates. It also collected sales data on aggregates which originate as a by-product of other quarrying operations – secondary aggregates. These principally included china clay waste and slate waste. **In total 3.6 Mt of these alternative aggregates were sold in 2023** for aggregates uses. The equivalent total in 2019 was 2.4 Mt.

11 Planning permissions and refusals

AM2023 collected information on the number of planning applications granted and refused permission to supply wholly, or in part, aggregate minerals, and the amounts of mineral that these contained. In addition, the survey has collected information on the number of planning applications withdrawn and not re-submitted or which have yet to be determined. Data are presented by site type, e.g. new quarry, borrow pit or extension, and by environmental designation for the period 2020 to 2023. 'Permissions' issued under the terms of the Planning & Compensation Act 1991 and the Environment Act 1995 or under the terms of the Environment Act 1995 re-enacted in the Town and Country Planning (Scotland) Act 1997, (ROMPs) have been included and are reported as 'dormant reactivation'.

As for previous surveys, 'permissions' granted by way of an amendment to a condition, for example extending the time limit of an existing valid permission or an increase in output, are not included. This is because in these cases the permission did not provide

additional reserves. In addition, refusals of the above applications are not included since the loss of the reserves, and also any reduction in reserves flowing from any modification of permission granted, are already accounted for in the reserve figure.

Only planning permission applications for which a reserves figure was submitted by the relevant planning authority have been included in the AM2023 survey. As a result, 19 sand and gravel, planning permission entries (17 in Scotland and 2 in England), 46 crushed rock (31 in Scotland, 12 in England and 3 in Wales) as well as 5 for secondary aggregates (all in Wales) were not included. Of the planning applications missing reserves figures, 16 for sand and gravel (14 in Scotland, 2 in England) and 29 for crushed rock (19 in Scotland, 8 in England and 2 in Wales) were granted.

Tables 14 and 15 show the total number of planning applications **granted and refused permission by region between 2020 and 2023, inclusive**, and the amount of mineral they contained. **Permissions, (143 or 92% of those granted/refused in Great Britain) greatly exceeded refusals (13). Total reserves of crushed rock granted planning permission in Great Britain between 2020 and 2023 were 203 Mt, of which 161 Mt were in England, 27 Mt in Wales and 14 Mt Scotland.**

Total reserves of sand and gravel granted planning permission in Great Britain between 2020 and 2023 were 118 Mt, of which 111 Mt were in England, 1 Mt in Wales and 6 Mt in Scotland. The largest additions were in the East of England (36 Mt) and West Midlands (26 Mt).

Tables 16 and 17 show the number of planning applications awaiting a decision (as at 31 December 2023) or which have been withdrawn from the planning process between 2020 and 2023 and which have not been re-submitted subsequently. Applications awaiting a decision are those where the planning application has been validated and no decision had been reached by the local authority by the 31 December 2023 or where there was an outstanding appeal / legal challenge or where the application has approval from the mineral / local planning authority but was awaiting signing of S106 (England and Wales) / S75 (Scotland) agreements.

At the end of 2023 there were 88 planning applications in Great Briain where a decision was outstanding. These comprised **304 Mt of total aggregate** split between 227 Mt crushed rock and 77 Mt sand and gravel. It is important to note that not all planning applications awaiting a decision may be granted. 11 planning applications were withdrawn between 2020 and 2023 and were not re-submitted subsequently. These comprised 4 Mt crushed rock and 13 Mt sand and gravel.

L/MPAs were requested to provide the equivalent information on the proportion of total reserves allocated to non-aggregate uses (where such a differentiation could be deduced from the planning application). Results are presented in Tables 18 to 21.

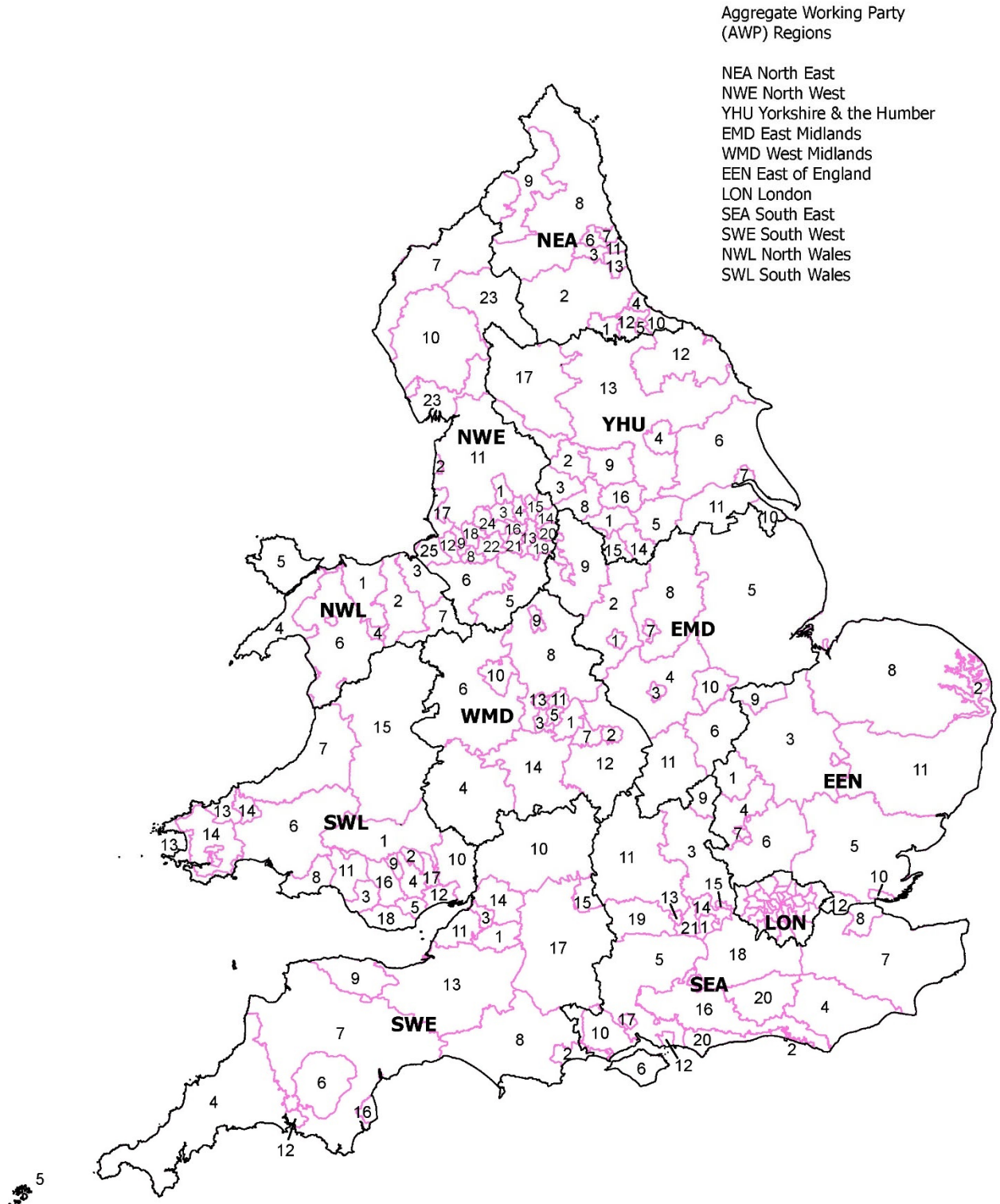
The tonnage of sand and gravel and crushed rock for aggregates granted or refused permission, together with that either awaiting a decision or which has been withdrawn is shown by site type and designated area in Tables C9 to C16 in Appendix C. Total reserves of aggregates in Great Britain granted planning permission in National Parks for the period 2020 to 2023 were 79.3 Mt comprising 79.2 Mt crushed rock (five permissions) and 0.05 Mt sand and gravel (one permission). No reserves of aggregates were granted permission in NLs / NSAs between 2020 and 2023.

Total reserves granted planning permission in sites associated with SSSIs were 12.4 Mt for sand and gravel (17 permission) and 8.4 Mt for crushed rock (two permissions). Reserves granted permission in sites related to Green Belts was 19.4 Mt (18 permissions) for sand and gravel and 6.0 Mt (two permissions) crushed rock.

Planning permission information on aggregate sites located within areas of land allocated for mineral extraction (allocated site, preferred area, area of search) in the L/MPAs development plan is shown in Tables C17 and C18 in Appendix C. Total reserves of aggregate mineral granted permission between 2020 and 2023 in sites located within areas allocated for mineral extraction in the relevant development plan were 189 Mt (40% of total reserves permitted) for crushed rock and 112 Mt (73% of total reserves permitted) for sand and gravel.

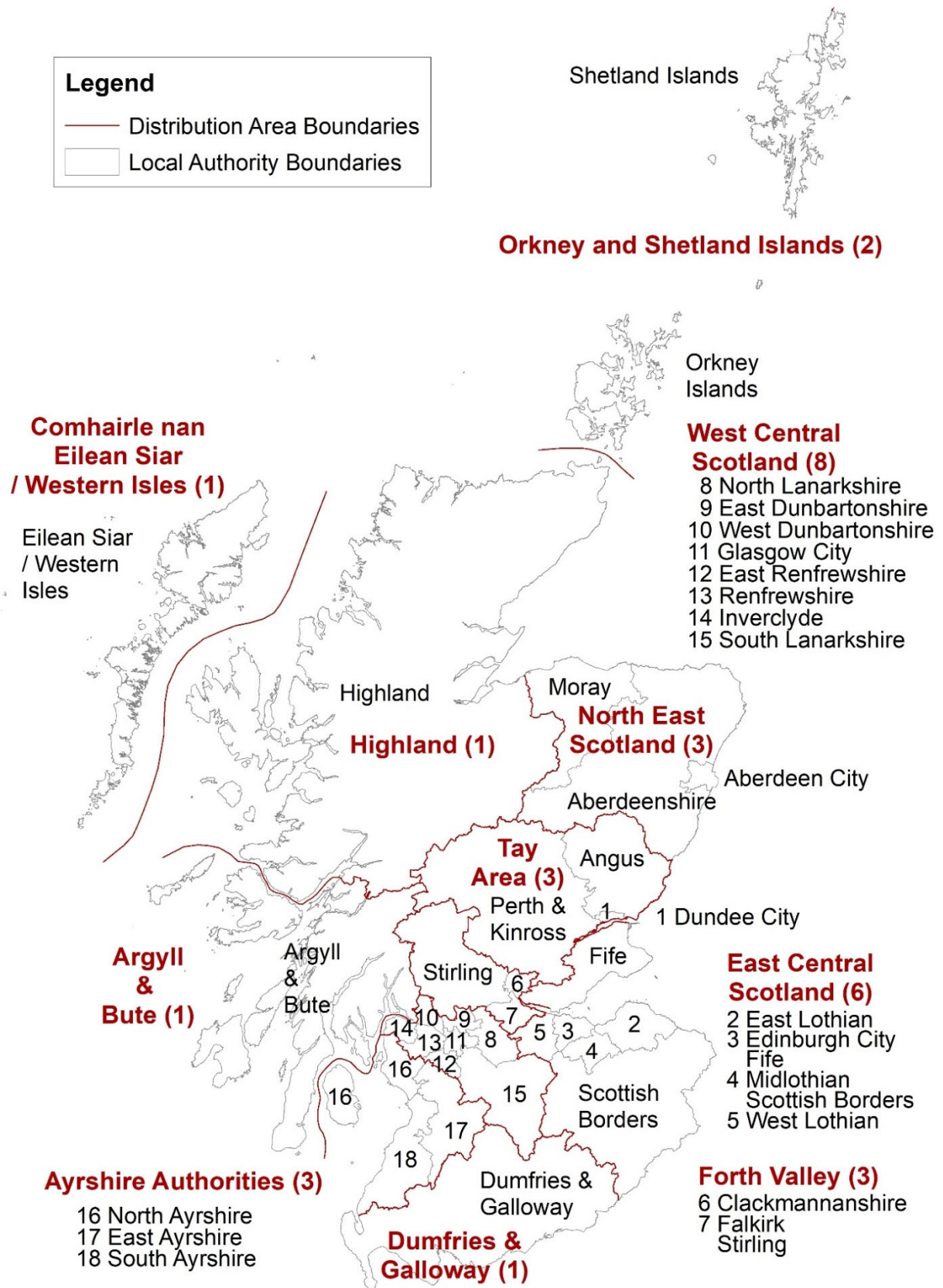
Map 1 Mineral Planning Authorities and Aggregate Working Party regions, England and Wales

Appendix L contains the accompanying list of MPAs.



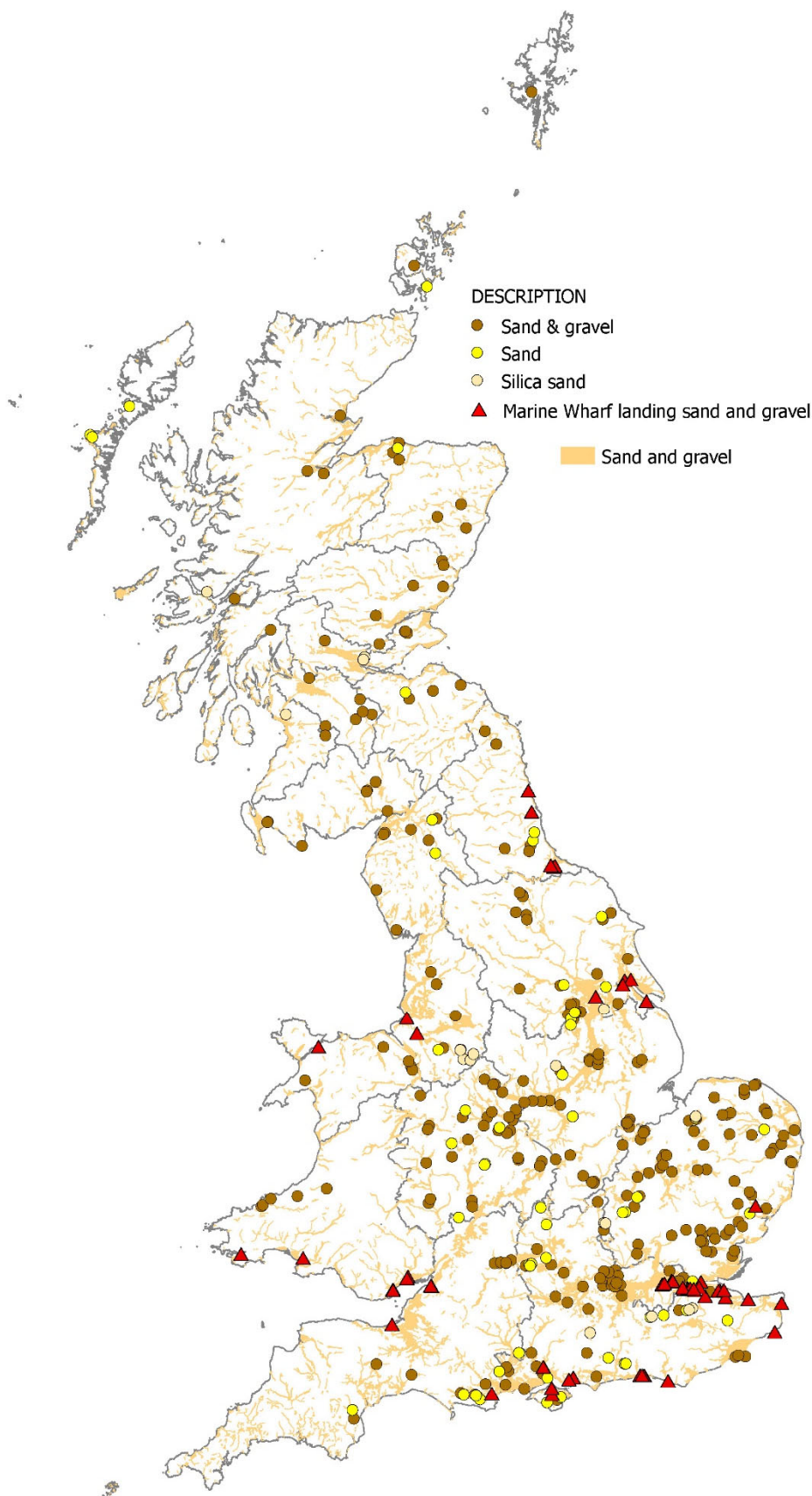
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Map 2 Local Planning Authorities and AM2023 regions, Scotland



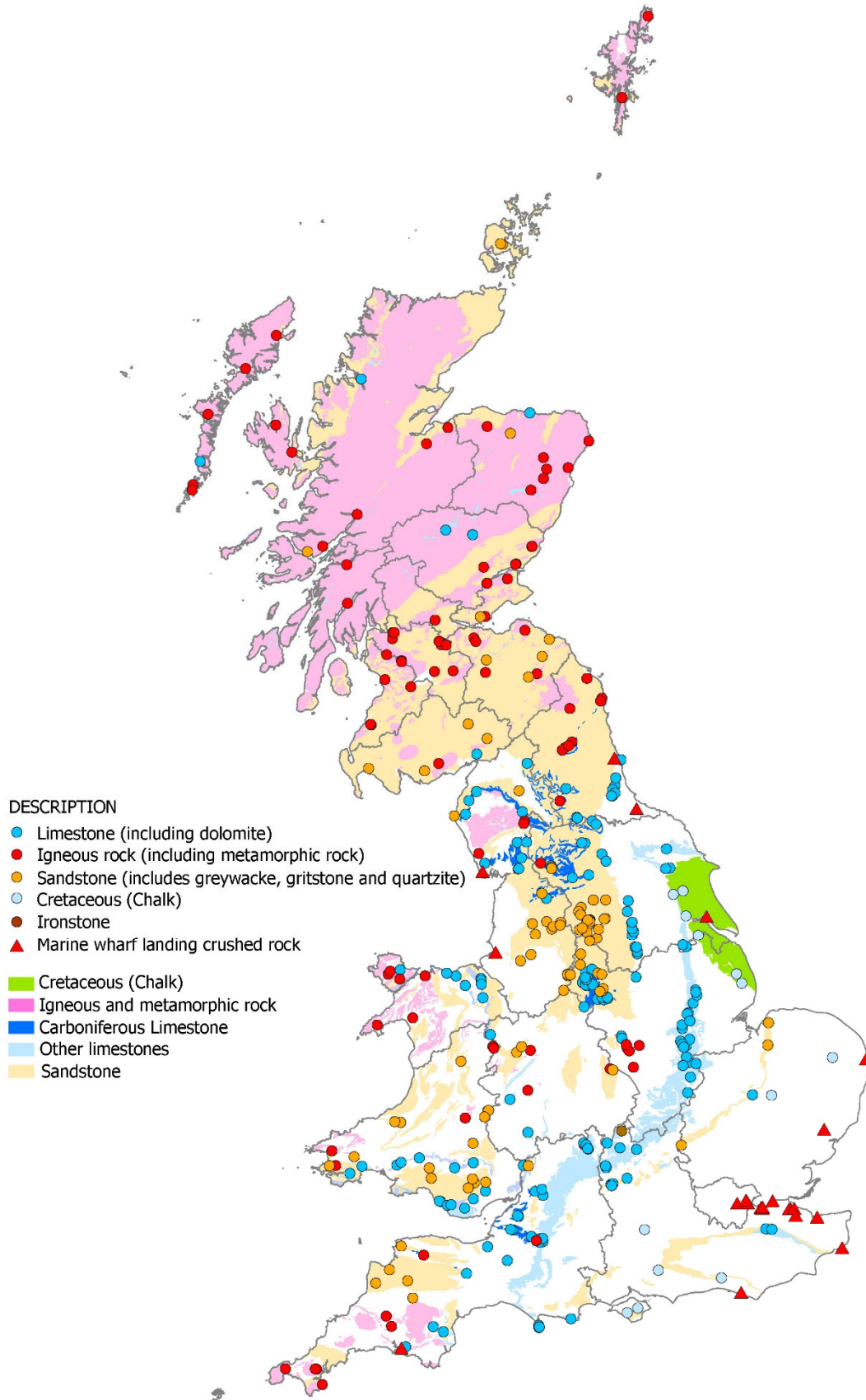
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Map 3 Location of active sand and gravel quarries included in the survey



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Map 4 Location of active crushed rock quarries included in the survey



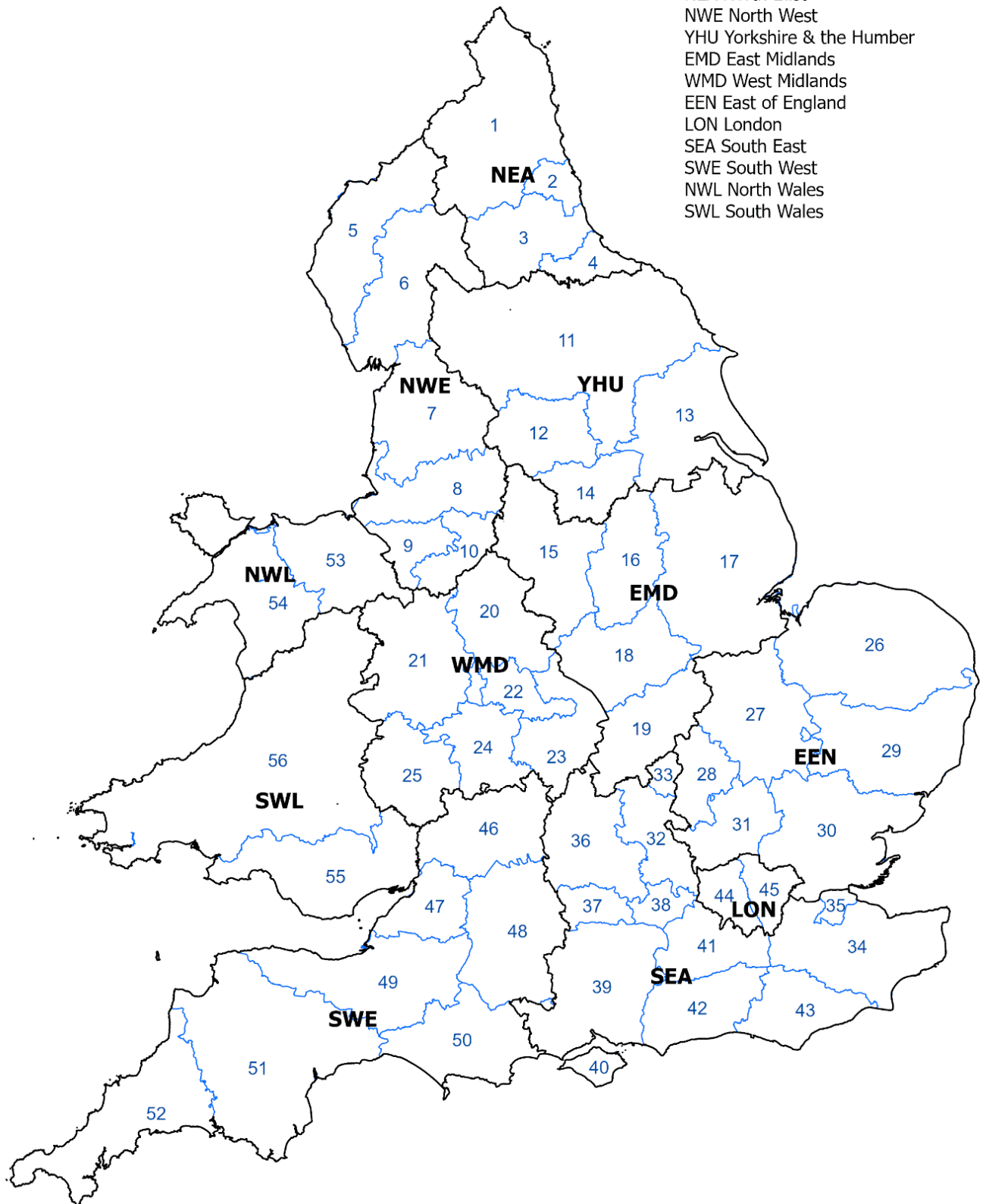
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Map 5 AM2023 destination sub-regions, England and Wales

Appendix L contains the accompanying list of sub-regions.

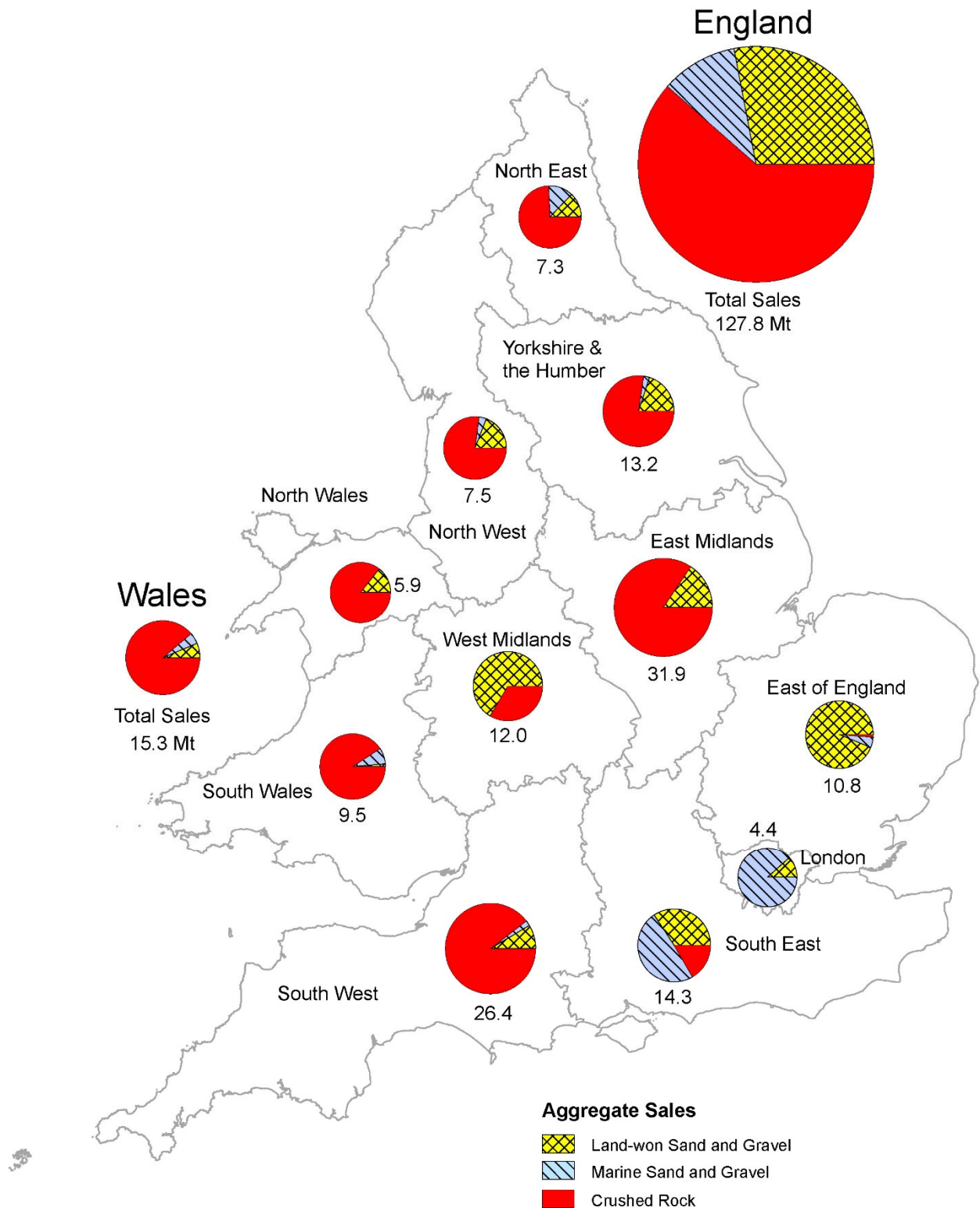
Aggregate Working Party
(AWP) Regions

NEA North East
NWE North West
YHU Yorkshire & the Humber
EMD East Midlands
WMD West Midlands
EEN East of England
LON London
SEA South East
SWE South West
NWL North Wales
SWL South Wales



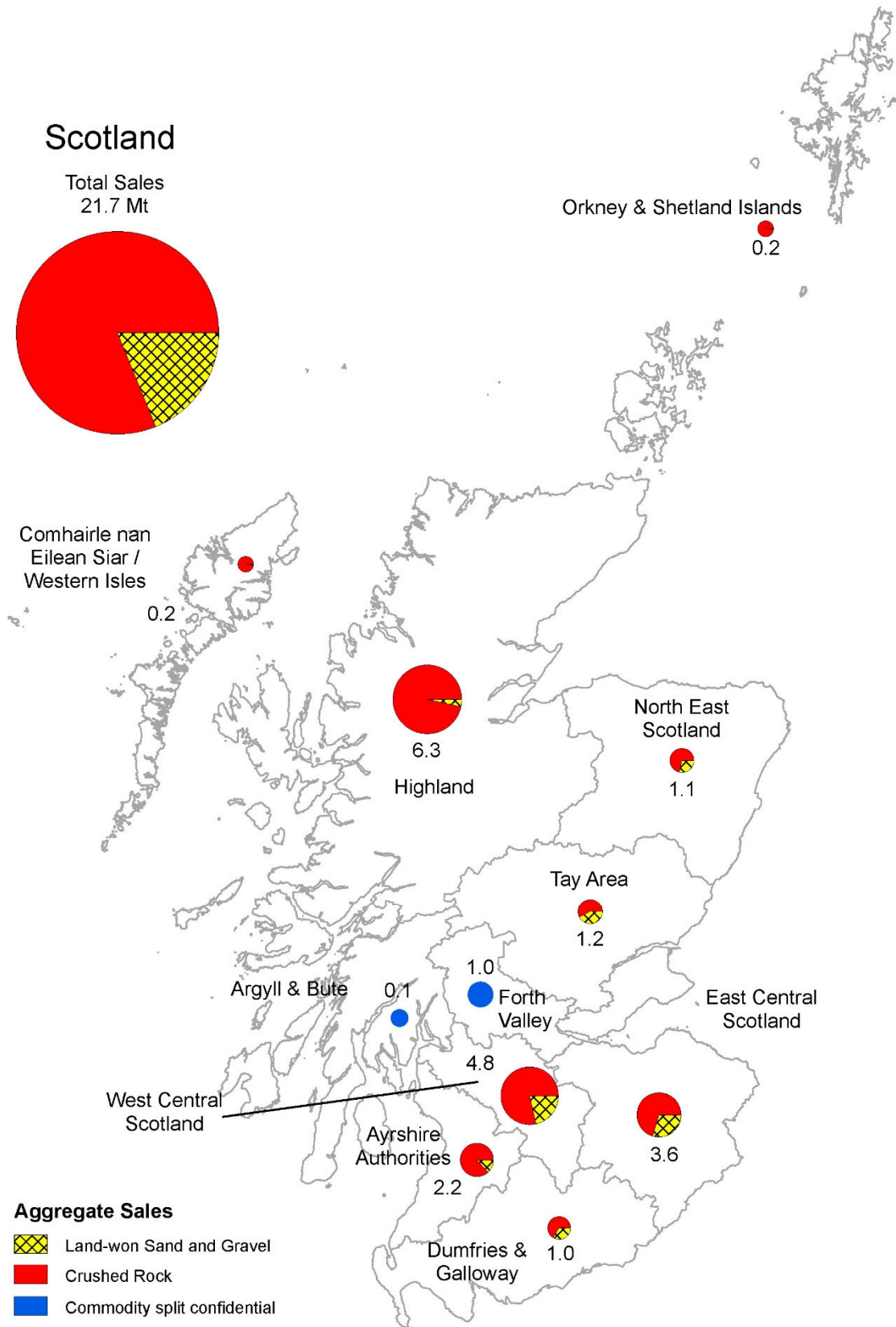
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Map 6 Sales of sand and gravel and crushed rock for primary aggregates, 2023, England and Wales



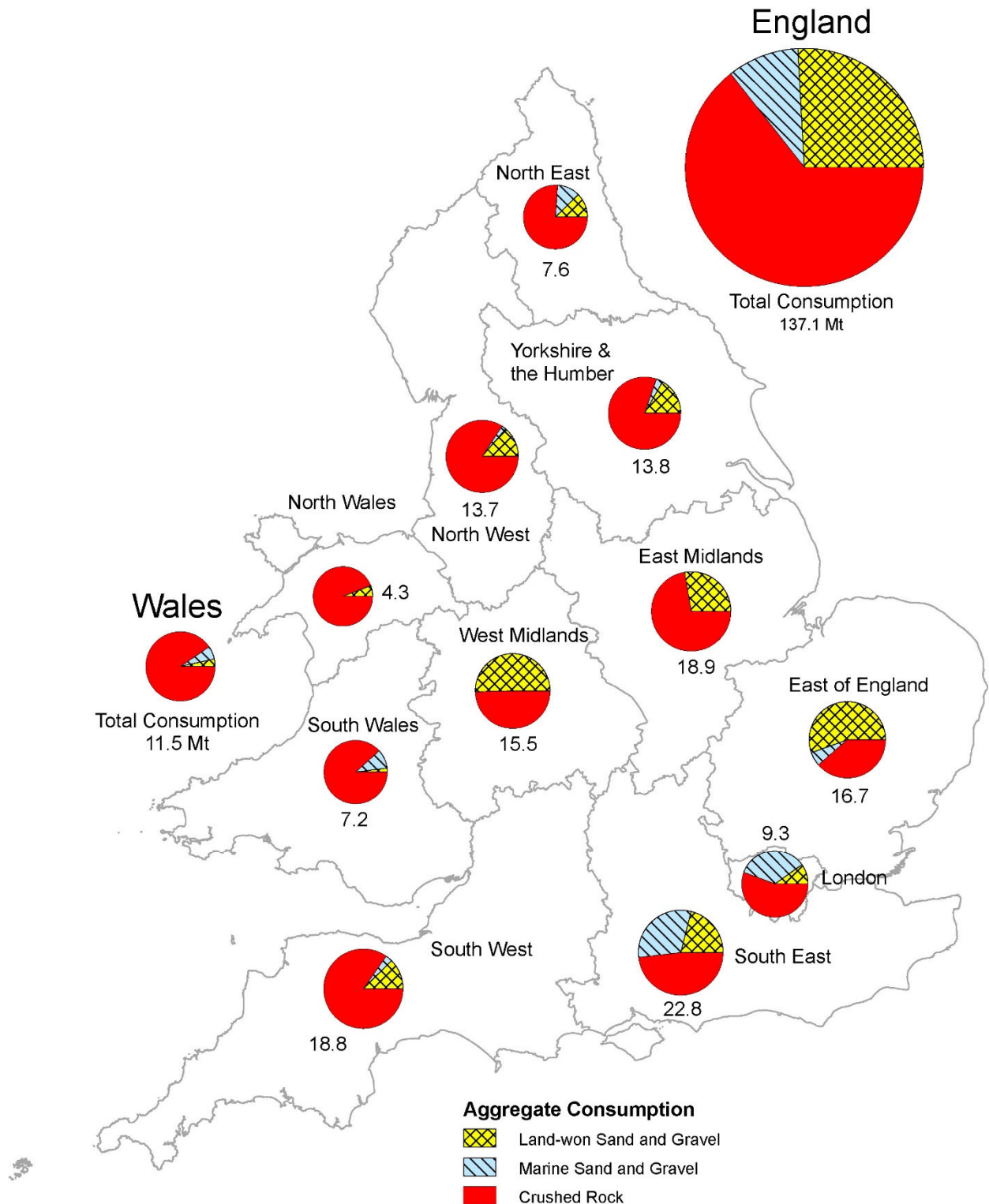
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Map 7 Sales of sand and gravel and crushed rock for primary aggregates, 2023, Scotland



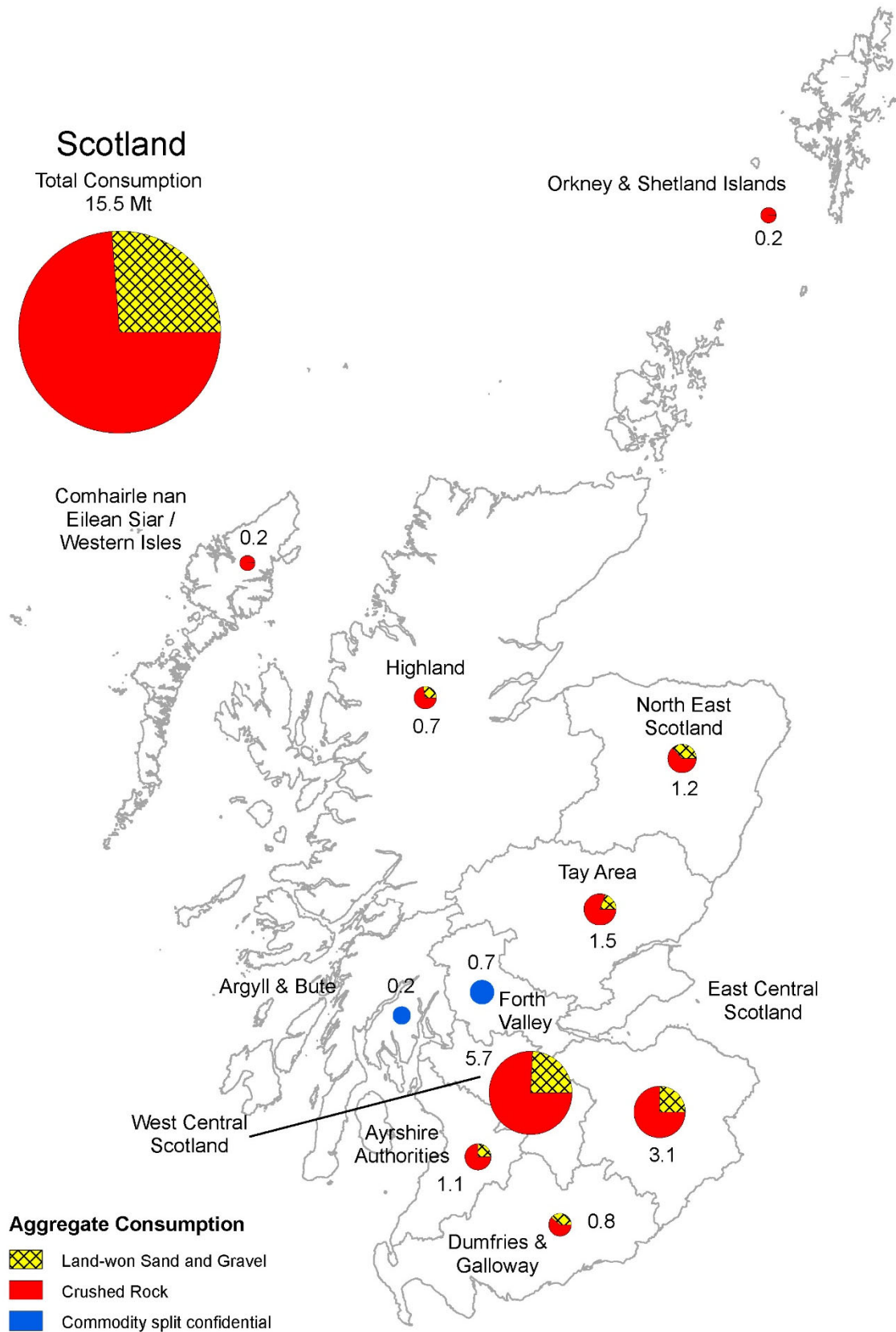
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Map 8 Consumption of sand and gravel and crushed rock for primary aggregates, 2023, England and Wales



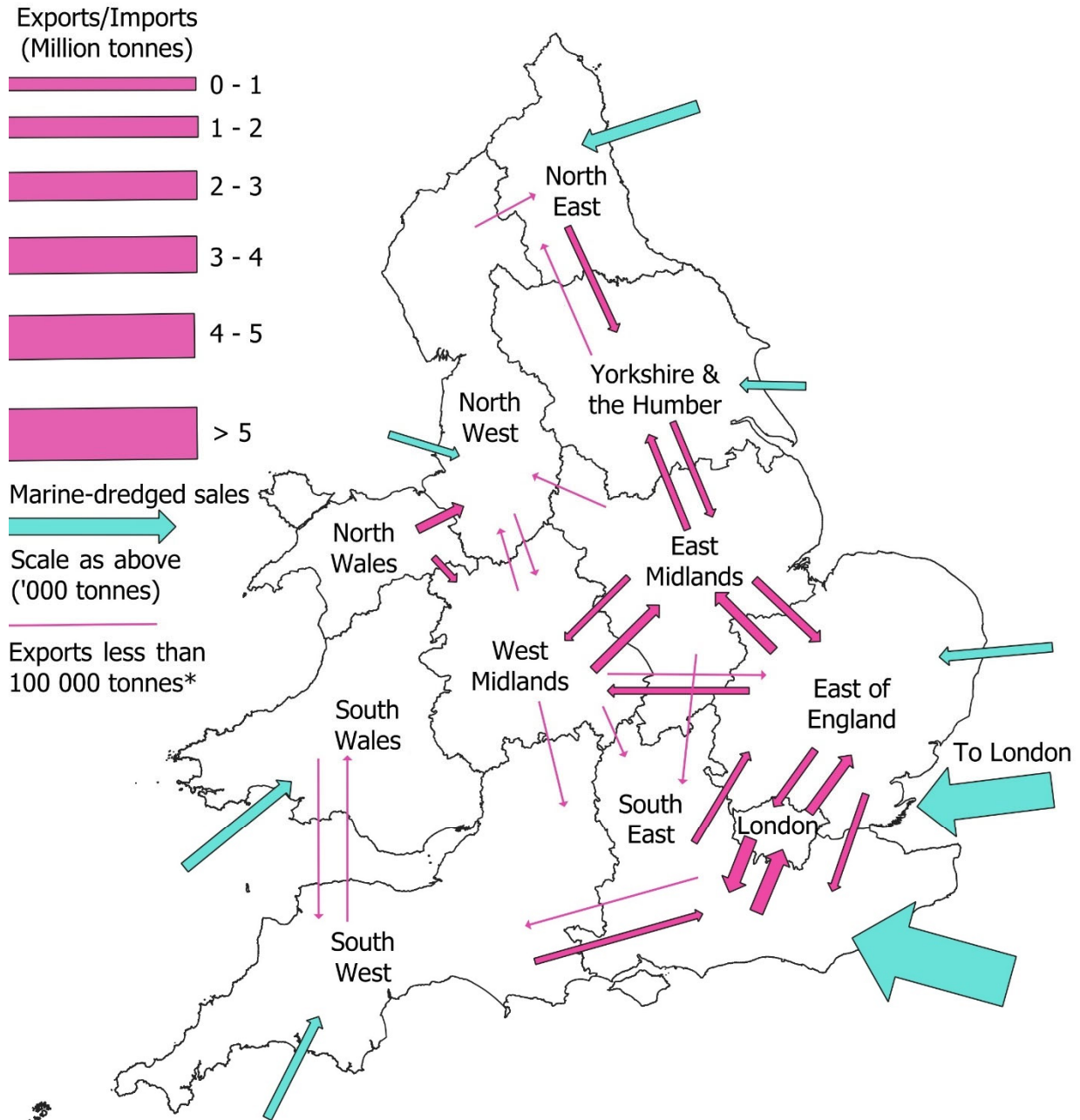
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Map 9 Consumption of sand and gravel and crushed rock for primary aggregates, 2023, Scotland



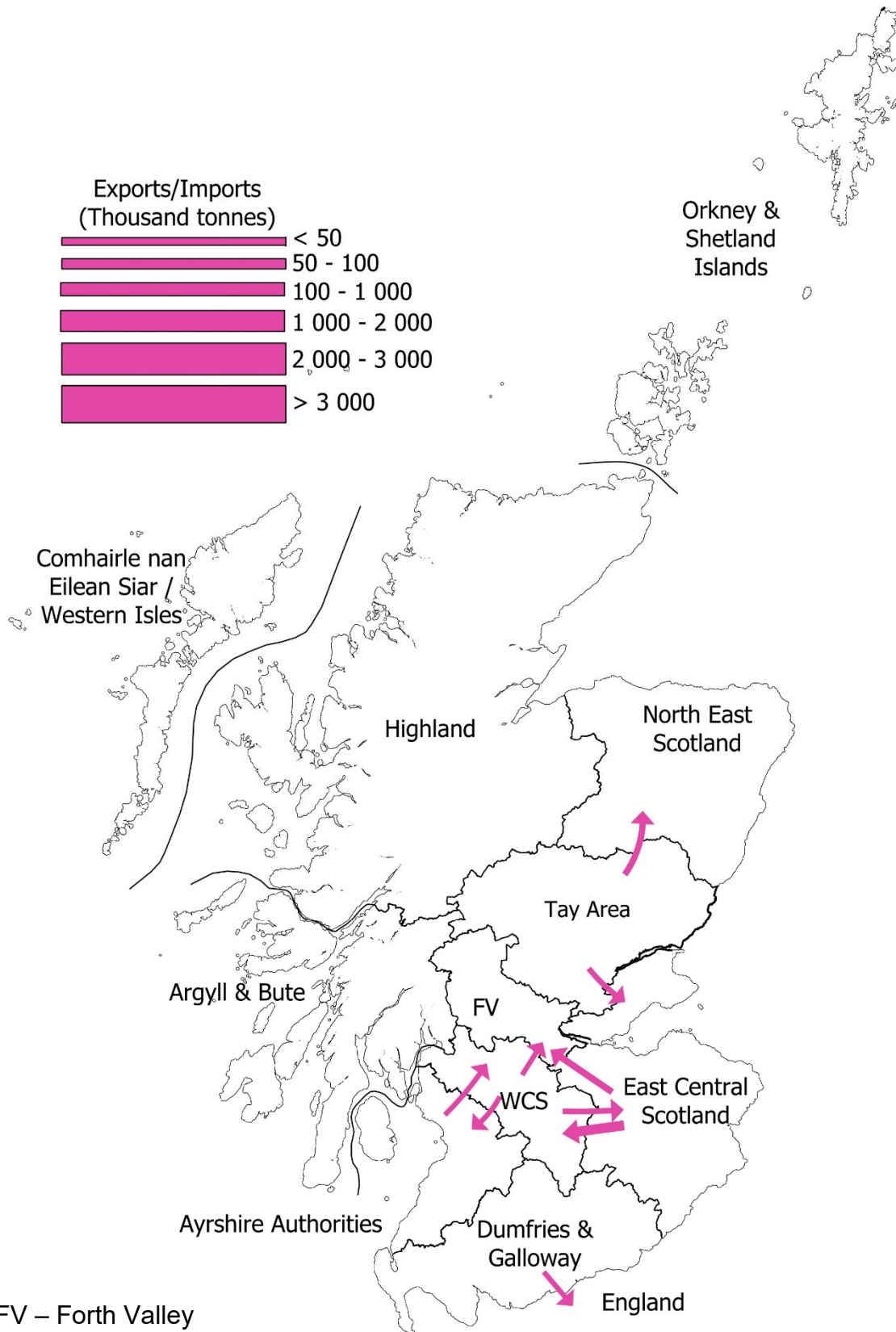
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Map 10 Sand and gravel inter-regional flows of primary aggregates, 2023, England and Wales



*For clarity exports/imports less than 25 000 tonnes are not shown.

Map 11 Sand and gravel inter-regional flows of primary aggregates, 2023, Scotland



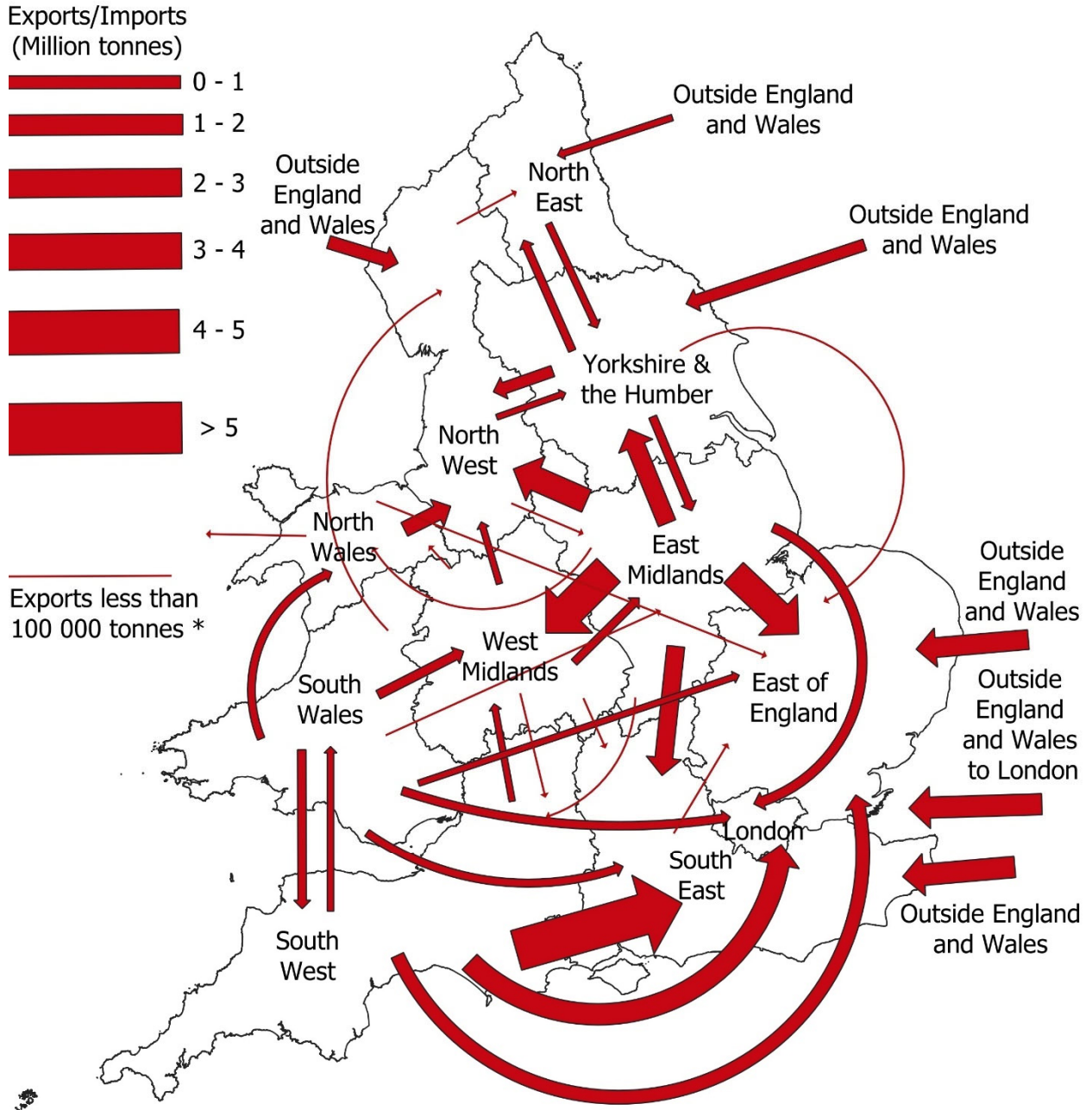
FV – Forth Valley

WCS – West Central Scotland

For clarity exports/imports less than 25 000 tonnes are not shown.

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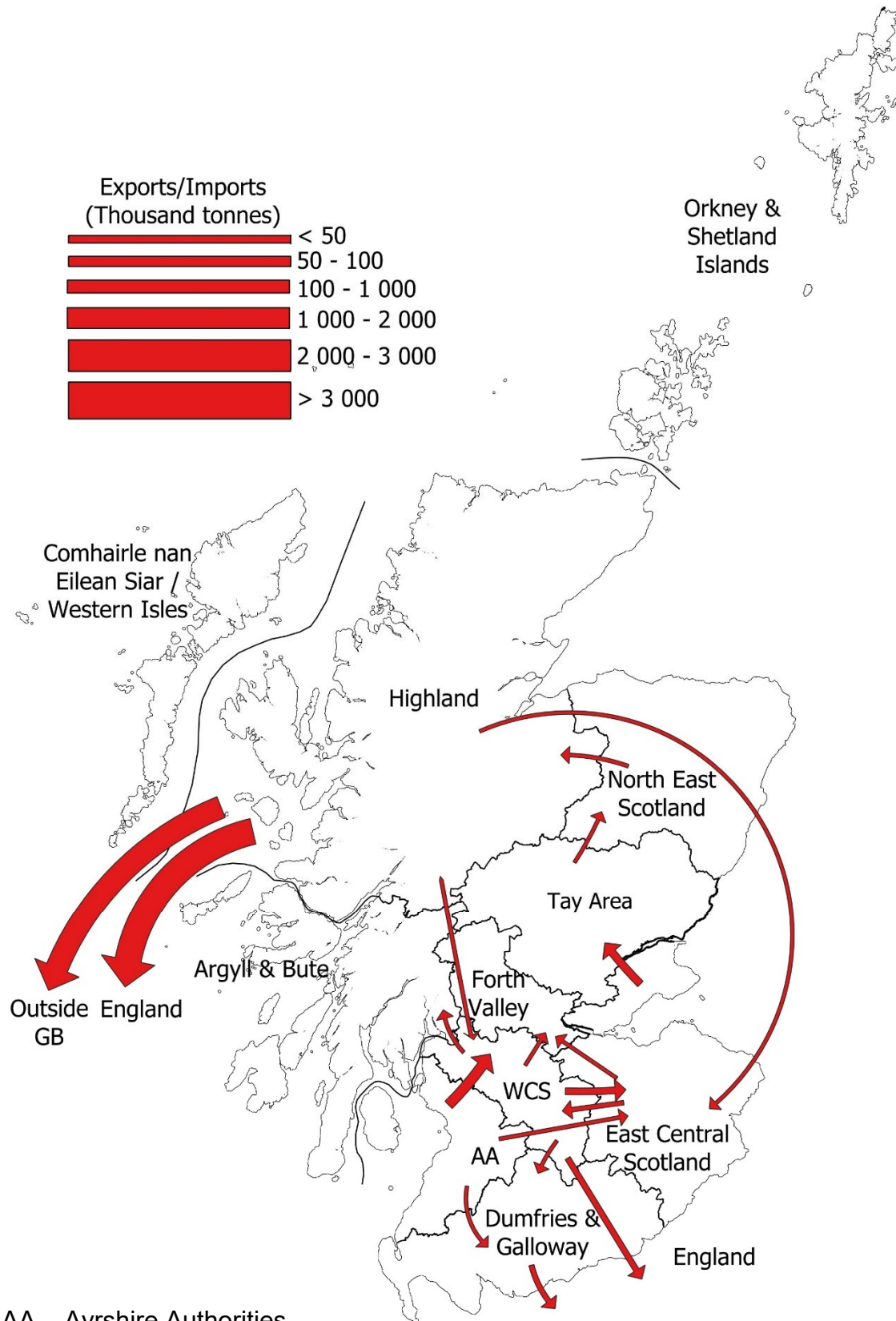
Map 12 Crushed rock inter-regional flows of primary aggregates, 2023, England and Wales



*For clarity exports/imports less than 25 000 tonnes are not shown.

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Map 13 Crushed rock inter-regional flows of primary aggregates, 2023, Scotland



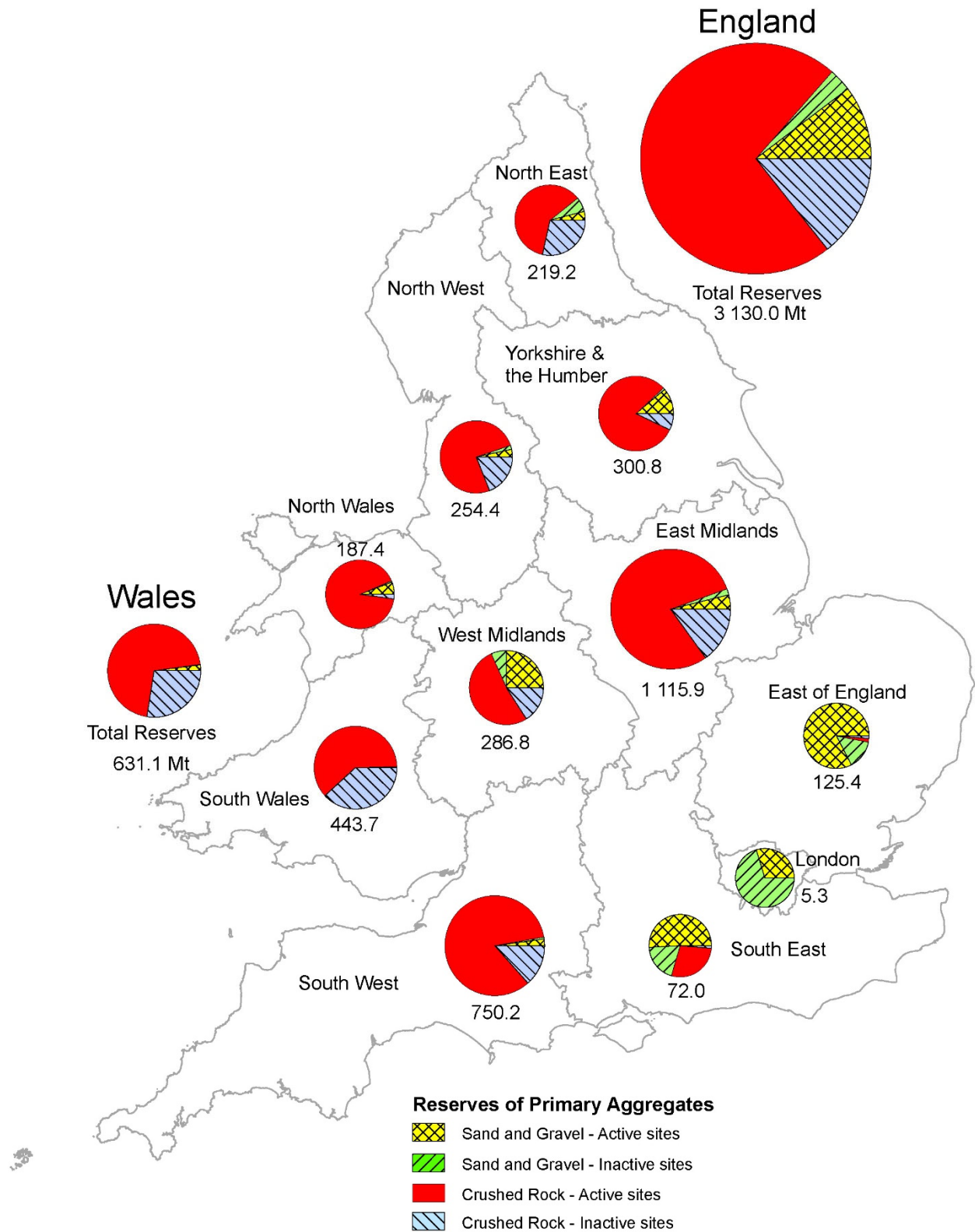
AA – Ayrshire Authorities

WCS – West Central Scotland

For clarity exports/imports less than 25 000 tonnes are not shown.

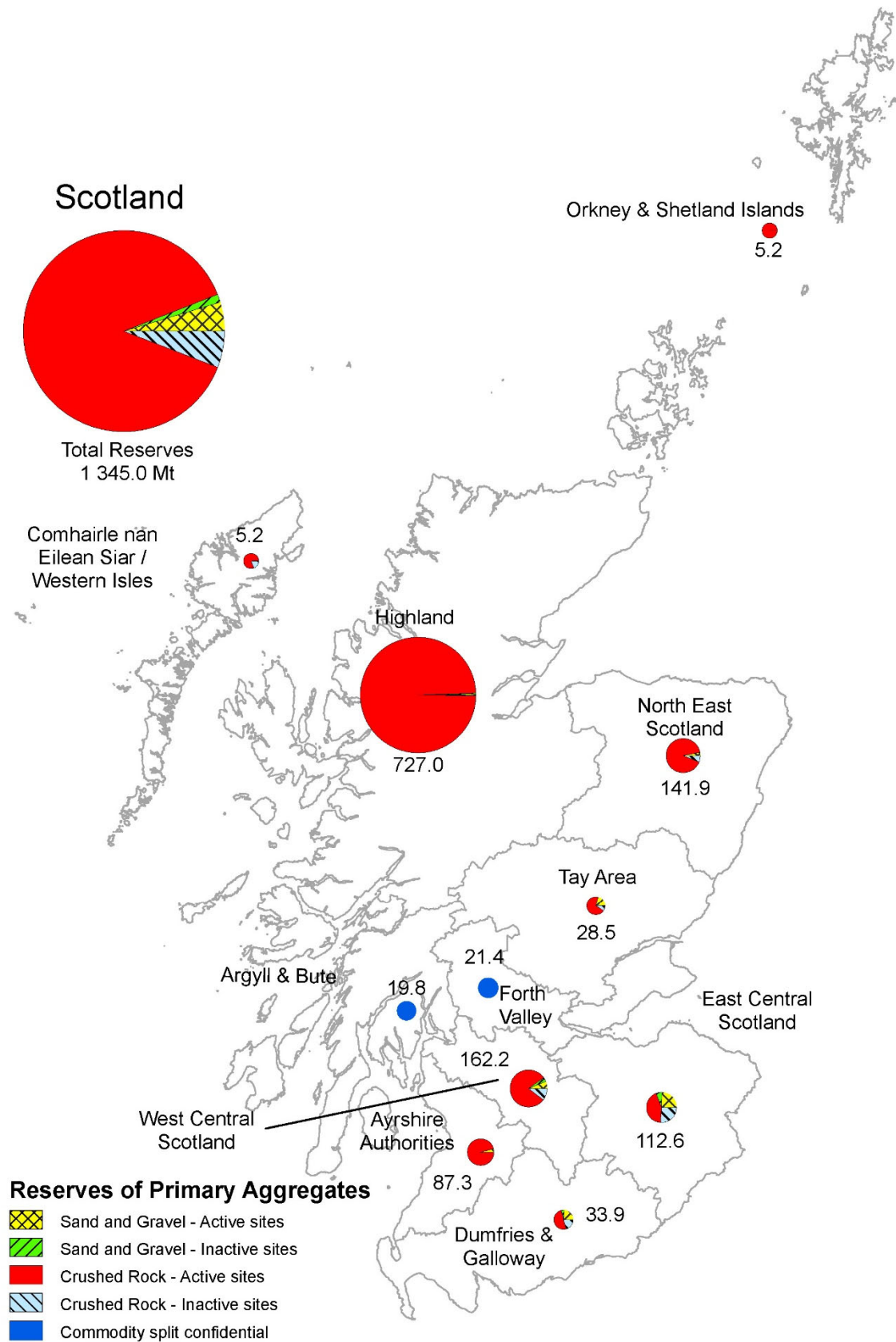
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Map 14 Permitted reserves of primary aggregates in England and Wales – active and inactive sites, 2023

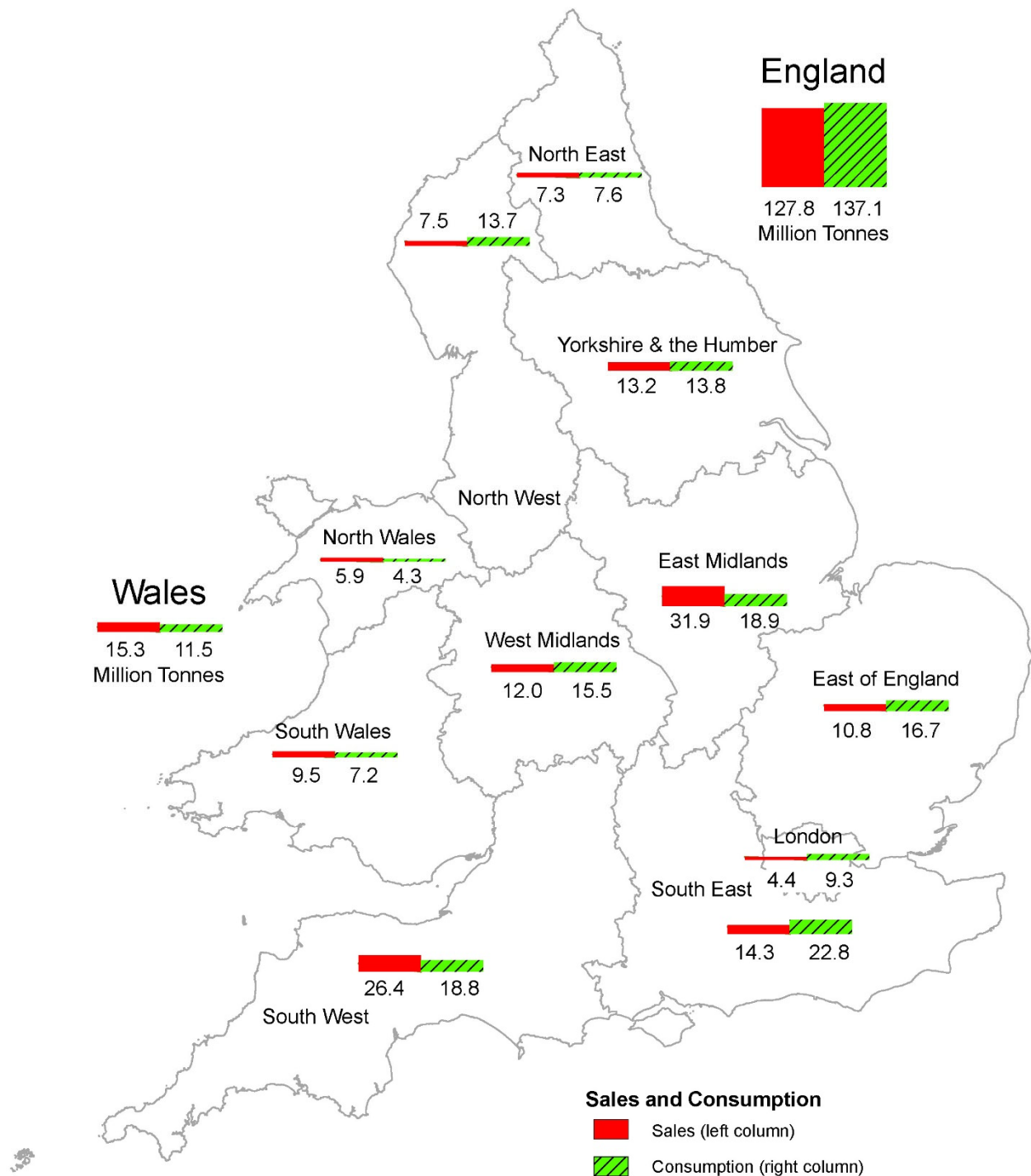


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Map 15 Permitted reserves of primary aggregates in Scotland – active and inactive sites, 2023



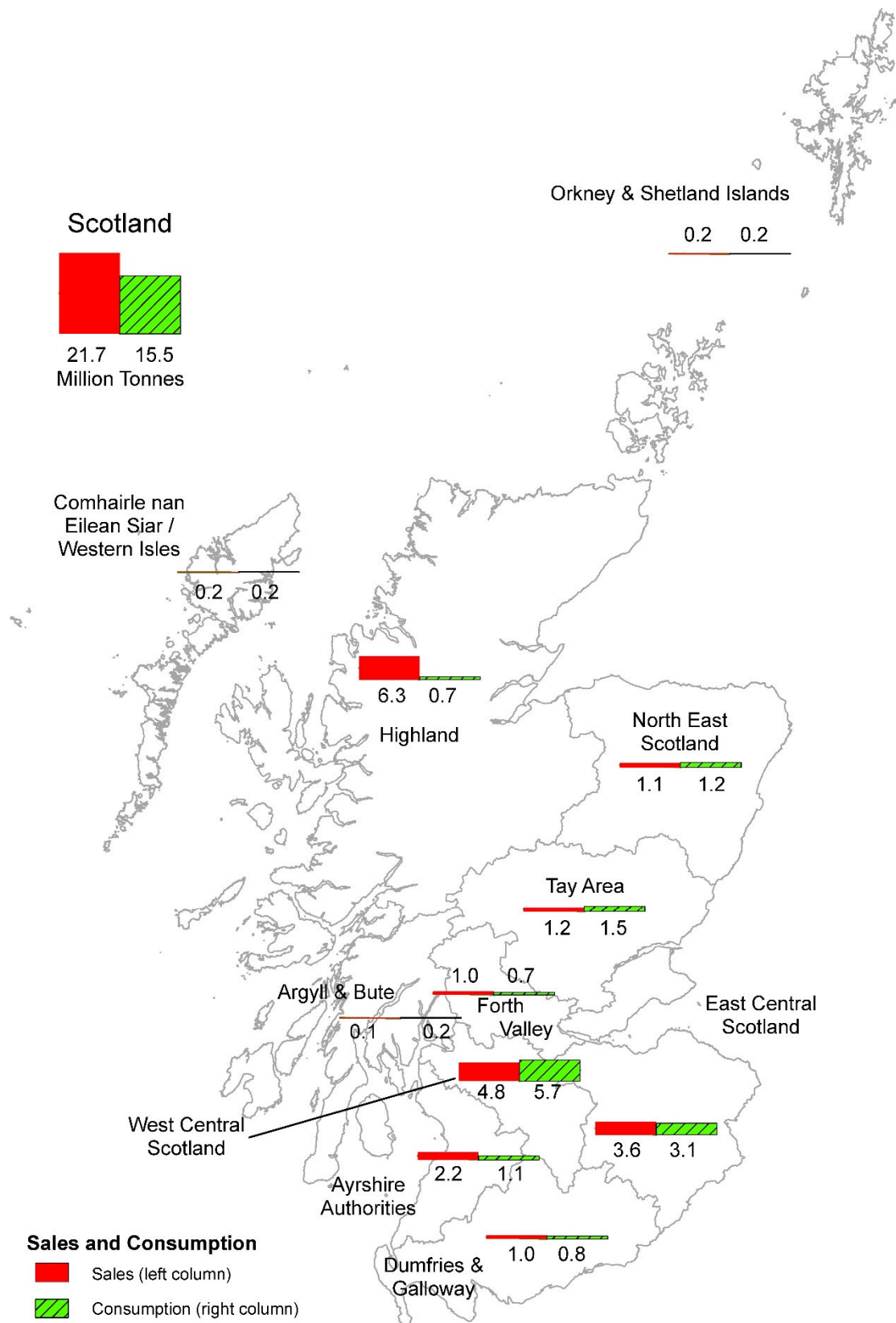
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Map 16 Sales and consumption of primary aggregates, 2019, England and Wales

*Figures for consumption are slightly underestimated because of the unknown destination of some sales (i.e. unallocated sales = c. 2.5 Mt (including Scotland)).

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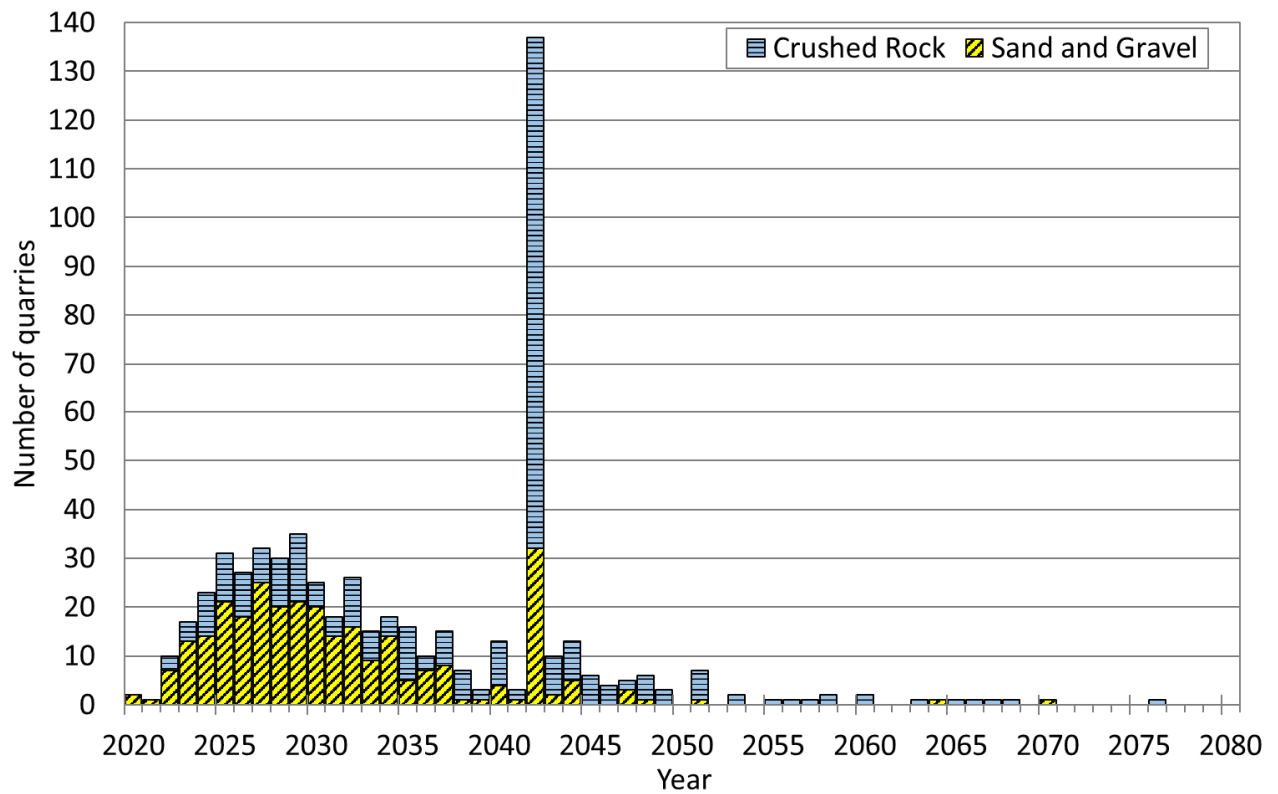
Map 17 Sales and consumption of primary aggregates, 2023, Scotland



*Figures for consumption are slightly underestimated because of the unknown destination of some sales (i.e. unallocated sales = c. 2.5 Mt (including England and Wales)).

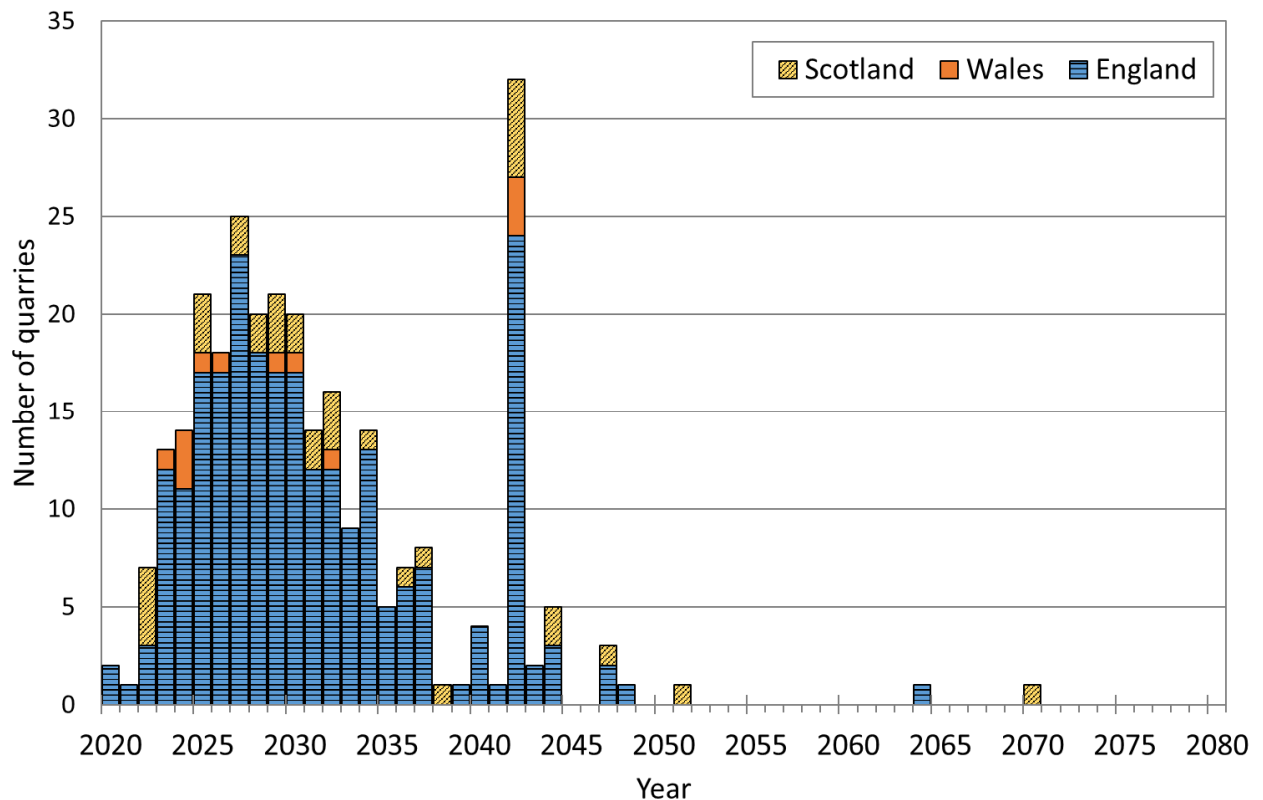
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Figure 1 Planning permission expiry dates for active quarries in Great Britain, 2023

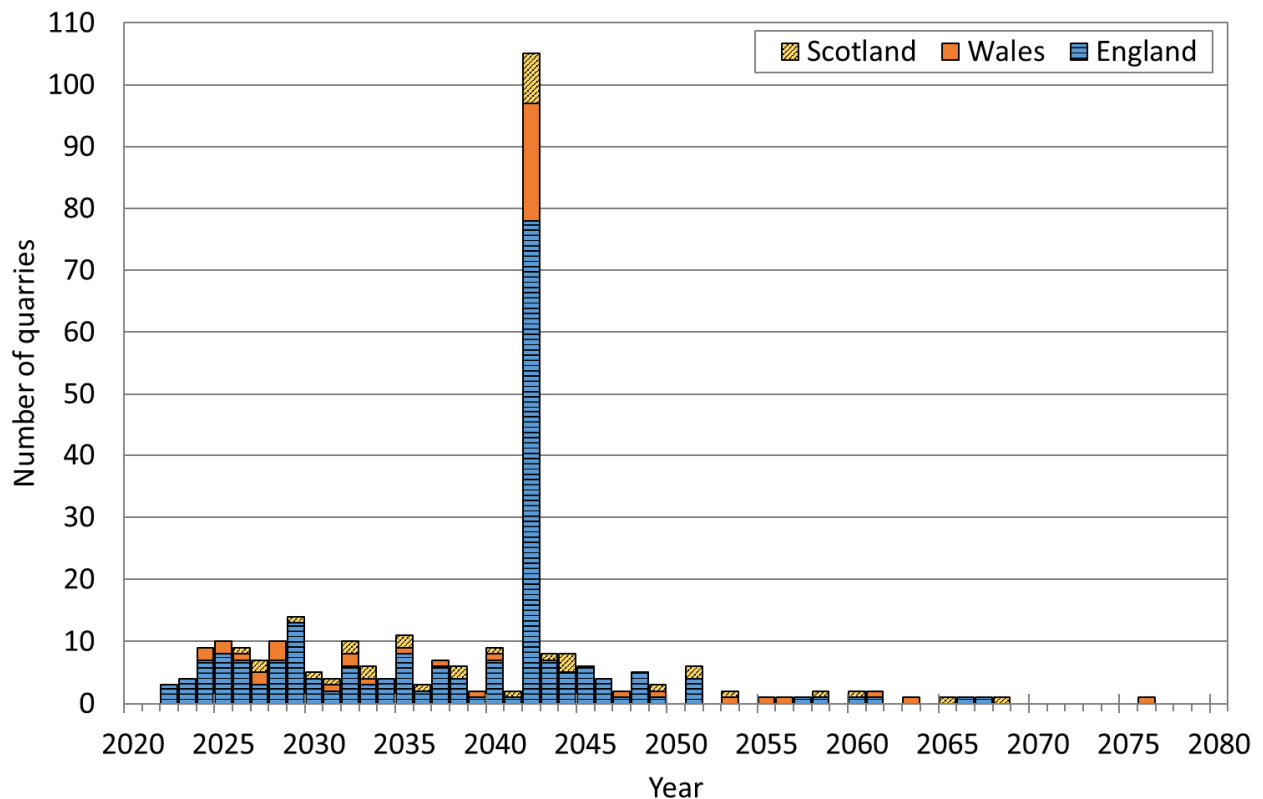


Data presented for 587 active quarries.

Figure 2 Planning permission expiry dates for active sand and gravel quarries, 2023



Data presented for 288 active quarries.

Figure 3 Planning permission expiry dates for active crushed rock quarries, 2023

Data presented for 299 active quarries.

The Town and Country Planning (Minerals) Act 1981 (for Scotland, re-enacted in the Town and Country Planning (Scotland) Act 1997) made provision to impose an end-date on all planning permissions for mineral working which did not have their own specified end-date. This was set at February 2042, 60 years after the power came into effect, by which time all investment in a minerals operation would have been amortised. As a result, **a large number of mineral permissions will all expire on the same day in 2042**, hence the spike depicted in the charts above.

While the end dates of planning permissions for quarries were collected as part of the survey, not all operators indicated the exact date planning permissions expired (instead indicating a year), while others did not provide any date. For those sites that provided a planning permission end date, sales of aggregates from quarries with planning permissions due to expire in 2042 comprised 3.3 Mt (8.0%) of total land-won sand and gravel sales and 29.6 Mt (27.0%) of total crushed rock sales, respectively.

Of total permitted reserves (in active and inactive sites) of sand and gravel, 71 Mt (13.7%) were in quarries with a planning permission end date falling in 2042. Approximately 1,449 Mt (31.6%) of total crushed rock reserves were held in sites with planning permissions that are currently due to expire in 2042.

12 AM2023 national collation tables

12.1 GENERAL NOTES ON THE TABLES

The national collation data tables are also available as a separate downloadable file.

A glossary of terms and abbreviations is provided as Appendix G. The following conventions have been used in the tables:

- '0' Figure is less than 500 tonnes for all sales and consumption information and less than 0.5 Mt for reserves data.
- ' ' A blank entry denotes a nil figure. (On rare occasions, a blank entry may conceal a confidential figure in order to allow publication of a regional total. Table footnotes indicate where this applies).
- 'c' Indicates a confidential figure. Totals include concealed confidential figures wherever possible.

Figures in the tables may not fully sum to the row or column total due to rounding.

The rationale behind the presentation of tables is as follows:

Tables 1 to 3 provide a summary of the main findings of the survey in respect of primary aggregate sales, consumption, and exports and imports by region.

Tables 4 and 5 present details by mineral type of sales (within and outside the Home region) and consumption and import data for each region.

Tables 6 to 8 present sales by major end use, environmental designation and transport method.

Table 9 provides details of aggregate flows from each Mineral Planning Authority to principal destination sub-region.

Tables 10 and 11 show imports and consumption of aggregates by sub-region.

Tables 12 and 13 show permitted reserves by site type (active/inactive) and environmental designation.

Tables 14 and 15 show total tonnages of primary aggregates granted and refused planning permission between 2015 and 2019 inclusive.

Table 16 and 17 show total tonnages of primary aggregates awaiting planning decision and those withdrawn.

Tables 18 and 19 show total tonnages allocated to non-aggregate uses granted and refused planning permission between 2015 and 2019 inclusive.

Table 20 and 21 show total tonnages allocated to non-aggregate uses awaiting planning decision and those withdrawn.

Table 22 shows the number of active land-based quarries and marine wharves that contributed to the survey.

Tables A1 to A5 (Appendix A) provide more detailed information on sales by product (end use) and mineral type.

Tables B1 to B4 (Appendix B) provide more comprehensive data on permitted reserves by mineral type and environmental designation.

Tables C1 to C18 (Appendix C) provide details of planning permissions and refusals for primary aggregates along with applications awaiting a decision or which were withdrawn by site type, environmental designation and within a development plan allocated area.

Tables D1 to D3 (Appendix D) provide comparison of sales, consumption and reserves for 1973, 1977, 1985, 1989, 1993, 1997, 2001, 2005, 2009, 2014 and 2019.

Tables E1 to E3 (Appendix E) provide comparison of sales, consumption and reserves for 2001, 2005, 2009, 2014 and 2019.

Table 1 Comparison of sales and consumption of primary aggregates in 2023

Region	Sales Total primary aggregates (thousand tonnes)	Consumption Total primary aggregates (thousand tonnes)	Sales as % of consumption	Net imports as % of consumption	Net exports as % of sales
South West	26,438	18,841	140%		29%
South East	14,295	22,784	63%	38%	
London	4,407	9,301	47%	53%	
East of England	10,817	16,702	65%	37%	
East Midlands	31,889	18,937	168%		37%
West Midlands	11,995	15,480	77%	23%	
North West	7,526	13,671	55%	45%	
Yorkshire & the Humber	13,178	13,788	96%	11%	
North East	7,252	7,566	96%	4%	
England	127,797	137,070	93%	9%	
South Wales	9,451	7,191	131%		24%
North Wales	5,890	4,287	137%		27%
Wales	15,341	11,478	134%		25%
England and Wales	143,138	148,548	96%	5%	
Argyll & Bute	122	211	58%	42%	
Ayrshire Authorities	2,192	1,051	209%		48%
Comhairle nan Eilean Siar	160	160	100%		
Dumfries & Galloway	992	761	130%		23%
East Central Scotland	3,642	3,115	117%		14%
Forth Valley	993	729	136%		27%
Highland	6,293	743	847%		88%
North East Scotland	1,131	1,245	91%	9%	
Orkney & Shetland Islands	187	187	100%		
Tay Area	1,196	1,543	78%	22%	
West Central Scotland	4,804	5,707	84%	16%	
Scotland	21,714	15,453	141%		28%
Great Britain	164,851	164,000	101%	1%	

1. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of aggregates from other regions or countries.
2. Consumption includes sales within the home region, imports from other regions and imports from other countries. The figure for total consumption slightly underestimates true consumption because for some regions unallocated sales have an unknown destination. Taking into account unallocated sales, the total consumption of primary aggregates was 166.5 Mt.
3. 92.4% of total sales is based on figures supplied by site operators. The remainder is based on estimates made by Mineral Planning Authorities.
4. Consumption is calculated using sales by destination data. 88.0% of total sales by destination is based on figures supplied by site operators. The remainder is based on estimates made by Mineral Planning Authorities.

Table 2a Summary of sales of primary aggregates in 2023

Region	Thousand tonnes				
	Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregate
South West	2,254	512	2,766	23,672	26,438
South East	4,904	7,016	11,920	2,375	14,295
London	514	3,893	4,407		4,407
East of England	10,145	549	10,694	123	10,817
East Midlands	4,968		4,968	26,921	31,889
West Midlands	7,973		7,973	4,022	11,995
North West	1,440	286	1,726	5,800	7,526
Yorkshire & the Humber	2,632	357	2,989	10,189	13,178
North East	933	935	1,869	5,383	7,252
England	35,763	13,549	49,311	78,485	127,797
<i>% of Great Britain Total</i>	<i>88%</i>	<i>95%</i>	<i>89%</i>	<i>72%</i>	<i>78%</i>
South Wales	126	749	876	8,575	9,451
North Wales	844	8	851	5,039	5,890
Wales	970	757	1,727	13,613	15,341
<i>% of Great Britain Total</i>	<i>2%</i>	<i>5%</i>	<i>3%</i>	<i>12%</i>	<i>9%</i>
England and Wales	36,733	14,306	51,039	92,099	143,138
Argyll & Bute	c		c	c	122
Ayrshire Authorities	286		286	1,906	2,192
Comhairle nan Eilean Siar	2		2	158	160
Dumfries & Galloway	337		337	655	992
East Central Scotland	1,211		1,211	2,432	3,642
Forth Valley	c		c	c	993
Highland	213		213	6,080	6,293
North East Scotland	324		324	808	1,131
Orkney & Shetland Islands	0		0	186	187
Tay Area	504		504	692	1,196
West Central Scotland	880		880	3,924	4,804
Scotland	4,089		4,089	17,625	21,714
<i>% of Great Britain Total</i>	<i>10%</i>		<i>7%</i>	<i>16%</i>	<i>13%</i>
Great Britain	40,822	14,306	55,128	109,724	164,851

1. For aggregate use only.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of aggregates from other regions or countries.

3. These figures do not include the use of alternative, but still mineral-based, sources of aggregates. In England in 2023, 3.0 Mt comprising china clay waste (sand and rock from Cornwall and Devon) and ball clay sand (from Devon) were used for aggregate purposes. (Ball clay sand was also produced in Dorset but in this county sand and gravel associated with ball clay production is recorded under primary aggregate sales, therefore the same approach has been taken in this national collation.) 0.23 Mt of slate waste were also used for aggregate purposes in England and 0.41 Mt in Wales. In England and Wales, 0.04 Mt of by-product clay / shale was also used for aggregate fill.

4. 92.4% of total sales is based on figures supplied by site operators. The remainder is based on estimates made by Mineral Planning Authorities.

Table 2b Summary of consumption of primary aggregates in 2023

Region	Thousand tonnes				
	Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregate
South West	2,345	545	2,890	15,951	18,841
South East	4,797	7,012	11,809	10,975	22,784
London	916	3,211	4,127	5,174	9,301
East of England	9,263	1,002	10,264	6,438	16,702
East Midlands	5,244		5,244	13,693	18,937
West Midlands	7,786	14	7,800	7,680	15,480
North West	1,874	286	2,160	11,511	13,671
Yorkshire & the Humber	2,303	414	2,717	11,071	13,788
North East	935	878	1,813	5,753	7,566
England	35,462	13,362	48,824	88,246	137,070
<i>% of Great Britain Total</i>	<i>89%</i>	<i>95%</i>	<i>90%</i>	<i>80%</i>	<i>84%</i>
South Wales	145	704	849	6,342	7,191
North Wales	251	8	259	4,028	4,287
Wales	396	712	1,107	10,370	11,478
<i>% of Great Britain Total</i>	<i>1%</i>	<i>5%</i>	<i>2%</i>	<i>9%</i>	<i>7%</i>
England and Wales	35,858	14,073	49,931	98,616	148,548
Argyll & Bute	c		c	c	211
Ayrshire Authorities	264		264	786	1,051
Comhairle nan Eilean Siar	2		2	158	160
Dumfries & Galloway	298		298	464	761
East Central Scotland	779		779	2,336	3,115
Forth Valley	c		c	c	729
Highland	208		208	535	743
North East Scotland	459		459	786	1,245
Orkney & Shetland Islands	0		0	186	187
Tay Area	303		303	1,240	1,543
West Central Scotland	1,381		1,381	4,326	5,707
Scotland	4,055		4,055	11,397	15,453
<i>% of Great Britain Total</i>	<i>10%</i>		<i>8%</i>	<i>10%</i>	<i>9%</i>
Great Britain	39,913	14,073	53,987	110,014	164,000

1. For aggregate use only.

2. Consumption includes sales within the home region, imports from other regions and imports from other countries. The figure for total consumption slightly underestimates true consumption because for some regions unallocated sales have an unknown destination. Taking into account unallocated sales, the total consumption of primary aggregates was 166.5 Mt.

3. Total unallocated sales of sand and gravel were 1.0 Mt and crushed rock were 1.5 Mt.

4. Consumption is calculated using sales by destination data. 88.0% of total sales by destination is based on figures supplied by site operators. The remainder is based on estimates made by Mineral Planning Authorities.

Table 3 Summary of exports and imports of primary aggregates in 2023

Region	Thousand tonnes			
	Exports		Imports	
	Sand and gravel	Crushed rock	Sand and gravel	Crushed rock
South West	209	8,285	336	565
South East	1,466	206	1,472	8,806
London	1,659		1,379	5,174
East of England	1,331	8	1,183	6,322
East Midlands	841	13,181	1,245	878
West Midlands	748	677	576	4,434
North West	98	236	573	5,948
Yorkshire & the Humber	258	1,681	456	2,972
North East	219	239	164	608
England	6,830	24,513	7,383	35,709
South Wales	82	2,410	55	177
North Wales	610	1,418	17	407
Wales	692	3,828	72	585
England and Wales	7,522	28,341	7,455	36,293
Argyll & Bute	8	31	24	104
Ayrshire Authorities	56	1,066	40	18
Comhairle nan Eilean Siar				
Dumfries & Galloway	40	265	1	73
East Central Scotland	647	800	217	705
Forth Valley	203	359	216	82
Highland	14	5,645	9	101
North East Scotland	0	73	136	51
Orkney & Shetland Islands				
Tay Area	216	50	14	599
West Central Scotland	139	938	639	1,340
Scotland	1,323	9,228	1,296	3,073
Great Britain	8,845	37,569	8,751	39,367

1. Sand and gravel includes land-won and marine-dredged sales.
2. Exports and imports do not include quantities of unallocated sales to unknown destinations.
3. Exports includes aggregates exported to areas outside Great Britain (2.6 Mt).
4. Imports include aggregates imported from outside Great Britain (4.6 Mt), principally crushed rock.

Table 4a Sales of aggregates and aggregate minerals by region in 2023: South West

Thousand tonnes				
Aggregate mineral	Aggregates	Non-aggregates	Total sales	
Sand and gravel	Land-won	2,254	125	2,380
	Marine-dredged	512	2	513
	Total	2,766	127	2,893
Crushed rock	Limestone / dolomite	21,057	974	22,032
	Igneous rock	2,395	23	2,417
	Sandstone	220	0	220
	Chalk			
	Ironstone			
	Total	23,672	997	24,669
Total Aggregates		26,438	1,124	27,562
<i>Percent</i>		<i>96%</i>	<i>4%</i>	<i>100%</i>

Sales of aggregates within and outside home region															Thousand tonnes
Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region												
			Total	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Scotland	Outside GB
Sand and gravel	Land-won	2,099	2	153	147		1	4		0		0			
	Marine-dredged	456		56	6			14				36			
	Total	2,554	2	209	154		1	18		0		36			
Crushed rock	Limestone / dolomite	12,902	1	8,154	4,572	2,041	1,090	6	151	1	0	163	2	129	
	Igneous rock	2,269		125	73	51						1			
	Sandstone	215		5								5			
	Chalk														
	Ironstone														
	Total	15,386	1	8,285	4,645	2,092	1,090	6	151	1	0	169	2	129	
Total Aggregates		17,940	3	8,494	4,799	2,092	1,090	6	170	1	0	206	2	129	

1. In addition 3.0 Mt comprising china clay waste (sand and rock from Cornwall and Devon) and ball clay sand (from Devon) and 0.01 Mt of slate waste were used as aggregate.

Table 4b Sales of aggregates and aggregate minerals by region in 2023: South East

Thousand tonnes				
Aggregate mineral	Aggregates	Non-aggregates	Total sales	
Sand and gravel	Land-won	4,904	776	5,680
	Marine-dredged	7,016		7,016
	Total	11,920	776	12,696
Crushed rock	Limestone / dolomite	2,253	22	2,275
	Igneous rock			
	Sandstone			
	Chalk	32	14	45
	Ironstone	90		90
	Total	2,375	36	2,411
Total Aggregates		14,295	812	15,107
<i>Percent</i>		<i>95%</i>	<i>5%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Sales of aggregates within and outside home region				Sales of aggregates outside home region												
	Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Total	South West	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Scotland	Outside GB
Sand and gravel	Land-won	4,363	117	423	135	123	122		43				0			
	Marine-dredged	5,974		1,042	8	962	73									
	Total	10,337	117	1,466	143	1,085	194		43				0			
Crushed rock	Limestone / dolomite	2,075		179	56		61	7	55							
	Igneous rock															
	Sandstone															
	Chalk	5		27			27									
	Ironstone	90														
	Total	2,169		206	56		88	7	55							
Total Aggregates		12,506	117	1,672	199	1,085	282	7	99				0			

1. Marine-dredged sand and gravel sales include a small proportion landed from Danish, Belgium and Dutch waters.

Table 4c Sales of aggregates and aggregate minerals by region in 2023: London

Thousand tonnes			
Aggregate mineral	Aggregates	Non-aggregates	Total sales
Sand and gravel	Land-won	514	514
	Marine-dredged	3,893	3,893
	Total	4,407	4,407
Crushed rock	Limestone / dolomite		
	Igneous rock		
	Sandstone		
	Chalk		
	Ironstone		
	Total		
Total Aggregates		4,407	4,407
<i>Percent</i>		<i>100%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Sales of aggregates within and outside home region			Sales of aggregates outside home region													Thousand tonnes
	Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Total	South West	South East	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Scotland	Outside GB
Sand and gravel	Land-won	514														
	Marine-dredged	2,234		1,659		1,014	553								93	
	Total	2,748		1,659		1,014	553								93	
Crushed rock	Limestone / dolomite															
	Igneous rock															
	Sandstone															
	Chalk															
	Ironstone															
	Total															
Total Aggregates		2,748		1,659		1,014	553								93	

Table 4d Sales of aggregates and aggregate minerals by region in 2023: East of England

Thousand tonnes				
Aggregate mineral	Aggregates	Non-aggregates	Total sales	
Sand and gravel	Land-won	10,145	81	10,226
	Marine-dredged	549		549
	Total	10,694	81	10,775
Crushed rock	Limestone / dolomite	9	0	9
	Igneous rock			
	Sandstone	115		115
	Chalk		52	52
	Ironstone			
	Total	123	52	176
Total Aggregates		10,817	133	10,950
<i>Percent</i>		<i>99%</i>	<i>1%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Sales of aggregates within and outside home region				Sales of aggregates outside home region												
Aggregate mineral		Sales of aggregates within home region	Un-allocated sales	Total	South West	South East	London	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Scotland	Outside GB
Sand and gravel	Land-won	8,706	140	1,297	6	208	279	587	190	6	7	1	6	0	6	0
	Marine-dredged	376	140	33		19	15									
	Total	9,082	280	1,331	6	227	294	587	190	6	7	1	6	0	6	0
Crushed rock	Limestone / dolomite	2		7		1	1	1	0	0	3	1	0			
	Igneous rock															
	Sandstone	114		1				1								
	Chalk															
	Ironstone															
	Total	115		8		1	1	2	0	0	3	1	0			
Total Aggregates		9,197	280	1,339	6	228	295	588	190	7	10	3	6	0	6	0

Table 4e Sales of aggregates and aggregate minerals by region in 2023: East Midlands

Thousand tonnes				
Aggregate mineral	Aggregates	Non-aggregates	Total sales	
Sand and gravel	Land-won	4,968	340	5,308
	Marine-dredged			
	Total	4,968	340	5,308
Crushed rock	Limestone / dolomite	18,320	9,003	27,322
	Igneous rock	8,345	0	8,345
	Sandstone	25	35	60
	Chalk	232	24	257
	Ironstone			
	Total	26,921	9,063	35,984
Total Aggregates		31,889	9,402	41,292
<i>Percent</i>		<i>77%</i>	<i>23%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Sales of aggregates within home region				Sales of aggregates outside home region												
	Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Total	South West	South East	London	East of England	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Scotland	Outside GB
Sand and gravel	Land-won	3,999	128	841	19	50		387	135	27	222	0		1		
	Marine-dredged															
	Total	3,999	128	841	19	50		387	135	27	222	0		1		
Crushed rock	Limestone / dolomite	7,881	925	9,513	1	928	329	1,588	2,761	2,414	1,467	2	1	23		0
	Igneous rock	4,692		3,653	26	711	246	1,420	888	77	276	1	4	1		2
	Sandstone	10		15			0	0	0	13	1					
	Chalk	232														
	Ironstone															
	Total	12,815	925	13,181	28	1,639	575	3,008	3,649	2,503	1,744	3	5	23		2
Total Aggregates		16,814	1,053	14,022	46	1,690	575	3,395	3,784	2,530	1,966	3	5	25		2

Table 4f Sales of aggregates and aggregate minerals by region in 2023: West Midlands

Thousand tonnes				
Aggregate mineral	Aggregates	Non-aggregates	Total sales	
Sand and gravel	Land-won	7,973	2	7,975
	Marine-dredged			
	Total	7,973	2	7,975
Crushed rock	Limestone / dolomite	1,442	952	2,394
	Igneous rock	1,160		1,160
	Sandstone	1,420		1,420
	Chalk			
	Ironstone			
	Total	4,022	952	4,975
	Total Aggregates	11,995	954	12,949
	<i>Percent</i>	<i>93%</i>	<i>7%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Sales of aggregates within and outside home region				Sales of aggregates outside home region												
	Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Total	South West	South East	London	East of England	East Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Scotland	Outside GB
Sand and gravel	Land-won	7,224	0	748	86	28		42	506	60	1		12	13		
	Marine-dredged															
	Total	7,224	0	748	86	28		42	506	60	1		12	13		
Crushed rock	Limestone / dolomite	950	100	392	42			6	216	67	8		3	50		
	Igneous rock	1,108		52		21		2	29	0				0		
	Sandstone	1,187		233	3	10	5	13	112	82	7		1	1		
	Chalk															
	Ironstone															
	Total	3,245	100	677	45	31	5	21	357	150	15		3	51		
Total Aggregates		10,469	100	1,425	132	58	5	63	863	210	15		15	65		

Table 4g Sales of aggregates and aggregate minerals by region in 2023: North West

Thousand tonnes				
Aggregate mineral	Aggregates	Non-aggregates	Total sales	
Sand and gravel	Land-won	1,440	1,406	2,846
	Marine-dredged	286		286
	Total	1,726	1,406	3,132
Crushed rock	Limestone / dolomite	3,510	145	3,655
	Igneous rock	916		916
	Sandstone	1,373	36	1,410
	Chalk			
	Ironstone			
	Total	5,800	181	5,981
Total Aggregates		7,526	1,587	9,113
<i>Percent</i>		<i>83%</i>	<i>17%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region												
			Total	South West	South East	London	East of England	East Midlands	West Midlands	Yorkshire & Humber	North East	South Wales	North Wales	Scotland	Outside GB
Sand and gravel	Land-won	1,301	41	98						48	6	42		2	
	Marine-dredged	286													
	Total	1,587	41	98					48	6	42		2		
Crushed rock	Limestone / dolomite	3,363		147				34	7	49	56				0
	Igneous rock	827		89	0		4	6	0	54	25				
	Sandstone	1,373													
	Chalk														
	Ironstone														
	Total	5,564		236	0		4	40	7	103	81			0	
Total Aggregates		7,151	41	335	0		4	40	55	110	123		2	0	

1. In addition 0.21 Mt of slate were used as aggregate.

Table 4h Sales of aggregates and aggregate minerals by region in 2023: Yorkshire and the Humber

Thousand tonnes				
Aggregate mineral	Aggregates	Non-aggregates	Total sales	
Sand and gravel	Land-won	2,632	236	2,869
	Marine-dredged	357		357
	Total	2,989	236	3,226
Crushed rock	Limestone / dolomite	8,388	133	8,521
	Igneous rock	311		311
	Sandstone	1,350	66	1,416
	Chalk	140	301	442
	Ironstone			
	Total	10,189	501	10,689
	Total Aggregates	13,178	737	13,915
	<i>Percent</i>	<i>95%</i>	<i>5%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Sales of aggregates within and outside home region				Sales of aggregates outside home region												Mass and tonnes
	Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Total	South West	South East	London	East of England	East Midlands	West Midlands	North West	North East	South Wales	North Wales	Scotland	Outside GB
Sand and gravel	Land-won	1,903	471	258				5	152		7	89				4
	Marine-dredged	357														
	Total	2,260	471	258				5	152		7	89				4
Crushed rock	Limestone / dolomite	6,750	405	1,232		21	0	43	390	19	417	342				0
	Igneous rock	123	0	188					1		183	0				3
	Sandstone	1,109		238	0				0	0	234	3		0		0
	Chalk	117		23					23							
	Ironstone															
	Total	8,099	405	1,681	0	21	0	43	415	19	835	345		0		3
Total Aggregates		10,360	877	1,939	0	21	0	48	567	19	842	435		0		8

1. Marine-dredged sand and gravel sales include a small proportion landed from Danish and Dutch waters.

Table 4i Sales of aggregates and aggregate minerals by region in 2023: North East

Thousand tonnes				
Aggregate mineral	Aggregates	Non-aggregates	Total sales	
Sand and gravel	Land-won	933		933
	Marine-dredged	935		935
	Total	1,869		1,869
Crushed rock	Limestone / dolomite	3,770	253	4,022
	Igneous rock	1,613	0	1,613
	Sandstone			
	Chalk			
	Ironstone			
	Total	5,383	253	5,636
Total Aggregates		7,252	253	7,504
<i>Percent</i>		<i>97%</i>	<i>3%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region												
			Total	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	South Wales	North Wales	Scotland	Outside GB
Sand and gravel	Land-won	771	162							1	161			0	
	Marine-dredged	878	57								57			0	
	Total	1,649	219							1	218			0	
Crushed rock	Limestone / dolomite	3,667	103						0	2	99			2	
	Igneous rock	1,477	136			0	0	1	1	5	125			3	
	Sandstone														
	Chalk														
	Ironstone														
	Total	5,144	239			0	0	1	1	7	224			5	
Total Aggregates		6,794	458			0	0	1	1	8	442			5	

Table 4j Sales of aggregates and aggregate minerals by region in 2023: South Wales

Thousand tonnes				
Aggregate mineral	Aggregates	Non-aggregates	Total sales	
Sand and gravel	Land-won	126	89	215
	Marine-dredged	749		749
	Total	876	89	965
Crushed rock	Limestone / dolomite	4,715	682	5,397
	Igneous rock	1,280		1,280
	Sandstone	2,580	8	2,588
	Chalk			
	Ironstone			
	Total	8,575	690	9,265
Total Aggregates		9,451	779	10,230
<i>Percent</i>		<i>92%</i>	<i>8%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Sales of aggregates within and outside home region			Sales of aggregates outside home region													
	Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Total	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	North Wales	Scotland	Outside GB
Sand and gravel	Land-won	126														
	Marine-dredged	668		82	82											
	Total	794		82	82											
Crushed rock	Limestone / dolomite	4,035		679	14	307	290			68						
	Igneous rock	654		627	37	7			16	218	90	3		255		
	Sandstone	1,476		1,104	385	38	128	140	35	261	4	16	1	74	20	
	Chalk															
	Ironstone															
	Total	6,165		2,410	436	352	418	140	51	547	95	20	1	330	20	
Total Aggregates		6,959		2,492	518	352	418	140	51	547	95	20	1	330	20	

Table 4k Sales of aggregates and aggregate minerals by region in 2023: North Wales

Thousand tonnes				
Aggregate mineral	Aggregates	Non-aggregates	Total sales	
Sand and gravel	Land-won	844	49	893
	Marine-dredged	8		8
	Total	851	49	900
Crushed rock	Limestone / dolomite	3,747	11	3,758
	Igneous rock	1,292	2	1,294
	Sandstone			
	Chalk			
	Ironstone			
	Total	5,039	13	5,052
Total Aggregates		5,890	62	5,952
<i>Percent</i>		<i>99%</i>	<i>1%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region												
			Total	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	Scotland	Outside GB
Sand and gravel	Land-won	234	610						142	469					
	Marine-dredged	8													
	Total	241	610						142	469					
Crushed rock	Limestone / dolomite	2,338	1,409		21		31		1	1,294					62
	Igneous rock	1,283	9							9					
	Sandstone														
	Chalk														
	Ironstone														
	Total	3,621	1,418		21		31		1	1,303					62
Total Aggregates		3,862	2,028		21		31		143	1,771					62

1. In addition 0.41 Mt of slate were used as aggregate.

Table 4I Sales of aggregates and aggregate minerals by region in 2023: Argyll & Bute

Thousand tonnes			
Aggregate mineral	Aggregates	Non-aggregates	Total sales
Sand and gravel	Land-won	c	c
	Marine-dredged		
	Total	c	c
Crushed rock	Limestone / dolomite		
	Igneous rock	c	c
	Sandstone		
	Chalk		
	Ironstone		
	Total	c	c
Total Aggregates		122	122
<i>Percent</i>		<i>100%</i>	<i>100%</i>

Sales of aggregates within and outside home region																Thousand tonnes		
Aggregate mineral		Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region														
				Total	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	England	Wales	Outside GB	
Sand and gravel	Land-won		c															
	Marine-dredged																	
	Total		c															
Crushed rock	Limestone / dolomite																	
	Igneous rock		c															
	Sandstone																	
	Chalk																	
	Ironstone																	
	Total		c															
Total Aggregates			82	40														

1. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

Table 4m Sales of aggregates and aggregate minerals by region in 2023: Ayrshire Authorities

Thousand tonnes				
	Aggregate mineral	Aggregates	Non-aggregates	Total sales
Sand and gravel	Land-won	286	19	305
	Marine-dredged			
	Total	286	19	305
Crushed rock	Limestone / dolomite	23		23
	Igneous rock	1,883		1,883
	Sandstone			
	Chalk			
	Ironstone			
	Total	1,906		1,906
Total Aggregates		2,192	19	2,211
<i>Percent</i>		<i>99%</i>	<i>1%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region											England	Wales	Outside GB
			Total	Argyll & Bute	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland			
Sand and gravel	Land-won	224	6	56	3			12	10					30		
	Marine-dredged															
	Total	224	6	56	3			12	10					30		
Crushed rock	Limestone / dolomite	23														
	Igneous rock	745	72	1,066	16		36	50	22	10	10	10	912			
	Sandstone															
	Chalk															
	Ironstone															
	Total	768	72	1,066	16		36	50	22	10	10	10	912			
Total Aggregates		992	78	1,121	19		36	62	32	10	10	10	942			

Table 4n Sales of aggregates and aggregate minerals by region in 2023: Comhairle nan Eilean Siar

Thousand tonnes			
Aggregate mineral	Aggregates	Non-aggregates	Total sales
Sand and gravel	Land-won	2	2
	Marine-dredged		
	Total	2	2
Crushed rock	Limestone / dolomite		
	Igneous rock	158	158
	Sandstone		
	Chalk		
	Ironstone		
	Total	158	158
Total Aggregates		160	160
<i>Percent</i>		<i>100%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Sales of aggregates within and outside home region			Sales of aggregates outside home region												Midland	London
Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Total	Argyll & Bute	Ayrshire Authorities	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	England	Wales	Outside GB
Sand and gravel	Land-won	2														
	Marine-dredged															
	Total	2														
Crushed rock	Limestone / dolomite															
	Igneous rock	158														
	Sandstone															
	Chalk															
	Ironstone															
	Total	158														
	Total Aggregates	160														

Table 4o Sales of aggregates and aggregate minerals by region in 2023: Dumfries & Galloway

Thousand tonnes				
	Aggregate mineral	Aggregates	Non-aggregates	Total sales
Sand and gravel	Land-won	337		337
	Marine-dredged			
	Total	337		337
Crushed rock	Limestone / dolomite	156	47	203
	Igneous rock	32		32
	Sandstone	468		468
	Chalk			
	Ironstone			
	Total	655	47	703
Total Aggregates		992	47	1,040
<i>Percent</i>		<i>95%</i>	<i>5%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region											England	Wales	Outside GB
			Total	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland			
Sand and gravel	Land-won	297	40		4									36		
	Marine-dredged															
	Total	297	40		4									36		
Crushed rock	Limestone / dolomite	86	70											70		
	Igneous rock	32	0											0		
	Sandstone	273	195		15									180		
	Chalk															
	Ironstone															
	Total	390	265		15									250		
Total Aggregates		687	305		19									286		

Table 4p Sales of aggregates and aggregate minerals by region in 2023: East Central Scotland

Thousand tonnes			
Aggregate mineral	Aggregates	Non-aggregates	Total sales
Sand and gravel	Land-won	1,211	135
	Marine-dredged		
	Total	1,211	135
Crushed rock	Limestone / dolomite		
	Igneous rock	1,890	1,890
	Sandstone	541	541
	Chalk		
	Ironstone		
	Total	2,432	2,432
Total Aggregates		3,642	135
Percent		96%	4%

Sales of aggregates within and outside home region

Thousand tonnes

Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region											
			Total	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	England
Sand and gravel	Land-won	563	647	0	1		1	170	0	0		3	472	0
	Marine-dredged													
	Total	563	647	0	1		1	170	0	0		3	472	0
Crushed rock	Limestone / dolomite													
	Igneous rock	1,155	735					30		0		567	138	
	Sandstone	477	65	5				0	2	10		5	26	17
	Chalk													
	Ironstone													
	Total	1,631	800	5				31	2	10		572	164	17
Total Aggregates		2,194	1,448	5	1		1	200	2	10		576	636	17

Table 4q Sales of aggregates and aggregate minerals by region in 2023: Forth Valley

Thousand tonnes			
Aggregate mineral	Aggregates	Non-aggregates	Total sales
Sand and gravel	Land-won	c	c
	Marine-dredged		
	Total	c	c
Crushed rock	Limestone / dolomite		
	Igneous rock	c	c
	Sandstone		
	Chalk		
	Ironstone		
	Total	c	c
Total Aggregates		993	993
<i>Percent</i>		<i>100%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region													
			Total	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	England	Wales	Outside GB
Sand and gravel	Land-won	c	c													
	Marine-dredged															
	Total	c	c													
Crushed rock	Limestone / dolomite															
	Igneous rock	c	c													
	Sandstone															
	Chalk															
	Ironstone															
	Total	c	c													
Total Aggregates		431	562													

1. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

Table 4r Sales of aggregates and aggregate minerals by region in 2023: Highland

Thousand tonnes			
Aggregate mineral	Aggregates	Non-aggregates	Total sales
Sand and gravel	Land-won	213	113
	Marine-dredged		
	Total	213	113
Crushed rock	Limestone / dolomite	6	25
	Igneous rock	6,070	
	Sandstone	3	
	Chalk		
	Ironstone		
	Total	6,080	25
	Total Aggregates	6,293	138
	<i>Percent</i>	<i>98%</i>	<i>2%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Sales of aggregates within and outside home region			Sales of aggregates outside home region														Thousand tonnes
Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Total	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	England	Wales	Outside GB	
Sand and gravel	Land-won	199	14	13											1		
	Marine-dredged																
	Total	199	14	13											1		
Crushed rock	Limestone / dolomite	6															
	Igneous rock	425	5,645	20				28	0	1		6	60	2,994		2,536	
	Sandstone	3															
	Chalk																
	Ironstone																
	Total	435	5,645	20				28	0	1		6	60	2,994		2,536	
	Total Aggregates	634	5,659	33				28	0	1		6	60	2,995		2,536	

Table 4s Sales of aggregates and aggregate minerals by region in 2023: North East Scotland

Thousand tonnes			
Aggregate mineral	Aggregates	Non-aggregates	Total sales
Sand and gravel	Land-won	324	324
	Marine-dredged		
	Total	324	324
Crushed rock	Limestone / dolomite	45	91
	Igneous rock	739	739
	Sandstone	24	24
	Chalk		
	Ironstone		
	Total	808	853
Total Aggregates		1,131	1,177
<i>Percent</i>		<i>96%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Sales of aggregates outside home region											England	Wales	Outside GB
			Total	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	Orkney & Shetland Islands	Tay Area	West Central Scotland			
Sand and gravel	Land-won	323	0											0		
	Marine-dredged															
	Total	323	0											0		
Crushed rock	Limestone / dolomite	45														
	Igneous rock	666	73	0					1	61		11				
	Sandstone	24														
	Chalk															
	Ironstone															
	Total	735	73	0					1	61		11				
Total Aggregates		1,058	73	0					1	61		11		0		

Table 4t Sales of aggregates and aggregate minerals by region in 2023: Orkney & Shetland Islands

Thousand tonnes				
	Aggregate mineral	Aggregates	Non-aggregates	Total sales
Sand and gravel	Land-won	0	5	5
	Marine-dredged			
	Total	0	5	5
Crushed rock	Limestone / dolomite			
	Igneous rock	c		c
	Sandstone	c		c
	Chalk			
	Ironstone			
	Total	186		186
	Total Aggregates	187	5	192
	<i>Percent</i>	<i>97%</i>	<i>3%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Sales of aggregates within and outside home region			Sales of aggregates outside home region														Thousand tonnes	
	Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Total	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	North East Scotland	Tay Area	West Central Scotland	England	Wales	Outside GB	
Sand and gravel	Land-won		0															
	Marine-dredged																	
	Total		0															
Crushed rock	Limestone / dolomite																	
	Igneous rock		c															
	Sandstone		c															
	Chalk																	
	Ironstone																	
	Total		186															
Total Aggregates			187															

Table 4u Sales of aggregates and aggregate minerals by region in 2023: Tay area

Thousand tonnes				
	Aggregate mineral	Aggregates	Non-aggregates	Total sales
Sand and gravel	Land-won	504		504
	Marine-dredged			
	Total	504		504
Crushed rock	Limestone / dolomite	132	18	150
	Igneous rock	560	8	568
	Sandstone			
	Chalk			
	Ironstone			
	Total	692	26	718
Total Aggregates		1,196	26	1,222
Percent		98%	2%	100%

Sales of aggregates within and outside home region

Thousand tonnes

Sales of aggregates within and outside home region			Sales of aggregates outside home region													Thousand tonnes			
	Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Total	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	Sales of aggregates outside home region								England	Wales	Outside GB
									East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	West Central Scotland					
Sand and gravel	Land-won	289		216	0				69	11			136						
	Marine-dredged																		
	Total	289		216	0				69	11			136						
Crushed rock	Limestone / dolomite	107		26							20	5							
	Igneous rock	535		25								25							
	Sandstone																		
	Chalk																		
	Ironstone																		
	Total	642		50							20	30							
Total Aggregates		930		266	0				69	11	20	166							

Table 4v Sales of aggregates and aggregate minerals by region in 2023: West Central Scotland

Thousand tonnes			
Aggregate mineral	Aggregates	Non-aggregates	Total sales
Sand and gravel	Land-won	880	880
	Marine-dredged		
	Total	880	880
Crushed rock	Limestone / dolomite		
	Igneous rock	3,924	3,924
	Sandstone		
	Chalk		
	Ironstone		
	Total	3,924	3,924
Total Aggregates		4,804	4,804
<i>Percent</i>		<i>100%</i>	<i>100%</i>

Sales of aggregates within and outside home region

Thousand tonnes

Sales of aggregates within and outside home region			Sales of aggregates outside home region													Thousands tonnes	
	Aggregate mineral	Sales of aggregates within home region	Un-allocated sales	Total	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	England	Wales	Outside GB
Sand and gravel	Land-won	742		139	0	35			77	25							
	Marine-dredged																
	Total	742		139	0	35			77	25							
Crushed rock	Limestone / dolomite																
	Igneous rock	2,986		938	61	3		37	446	28					319		45
	Sandstone																
	Chalk																
	Ironstone																
	Total	2,986		938	61	3		37	446	28					319		45
Total Aggregates		3,727		1,077	61	39		37	523	54					319		45

Table 5a Consumption of primary aggregates by region in 2023: South West

Thousand tonnes				
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	246	2,099	2,345
	Marine-dredged	89	456	545
	Total	336	2,554	2,890
Crushed rock	Limestone / dolomite	114	12,902	13,016
	Igneous rock	63	2,269	2,332
	Sandstone	389	215	604
	Chalk			
	Ironstone			
	Total	565	15,386	15,951
Total Aggregates		901	17,940	18,841
<i>Percent</i>		<i>5%</i>	<i>95%</i>	<i>100%</i>

Imports of primary aggregates by region: South West

Thousand tonnes													
	Aggregate mineral	Total	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Scotland Outside GB
Sand and gravel	Land-won	246	135		6	19	86						0
	Marine-dredged	89	8								82		
	Total	336	143		6	19	86				82		0
Crushed rock	Limestone / dolomite	114	56			1	42				14		
	Igneous rock	63				26		0			37		
	Sandstone	389					3		0		385		
	Chalk												
	Ironstone												
	Total	565	56			28	45	0	0		436		
Total Aggregates		901	199		6	46	132	0	0		518		0

Table 5b Consumption of primary aggregates by region in 2023: South East

Thousand tonnes				
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	434	4,363	4,797
	Marine-dredged	1,038	5,974	7,012
	Total	1,472	10,337	11,809
Crushed rock	Limestone / dolomite	6,059	2,075	8,134
	Igneous rock	2,697		2,697
	Sandstone	50		50
	Chalk		5	5
	Ironstone		90	90
	Total	8,806	2,169	10,975
Total Aggregates		10,278	12,506	22,784
<i>Percent</i>		<i>45%</i>	<i>55%</i>	<i>100%</i>

Imports of primary aggregates by region: South East

Thousand tonnes													
	Aggregate mineral	Total	South West	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Scotland Outside GB
Sand and gravel	Land-won	434	147		208	50	28						
	Marine-dredged	1,038	6	1,014	19								
	Total	1,472	154	1,014	227	50	28						
Crushed rock	Limestone / dolomite	6,059	4,572		1	928			21		307	21	209
	Igneous rock	2,697	73			711	21				7		253
	Sandstone	50					10				38		2
	Chalk												
	Ironstone												
	Total	8,806	4,645		1	1,639	31		21		352	21	464
Total Aggregates		10,278	4,799	1,014	228	1,690	58		21		352	21	464

Table 5c Consumption of primary aggregates by region in 2023: London

Thousand tonnes				
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	402	514	916
	Marine-dredged	977	2,234	3,211
	Total	1,379	2,748	4,127
Crushed rock	Limestone / dolomite	2,668		2,668
	Igneous rock	1,877		1,877
	Sandstone	629		629
	Chalk			
	Ironstone			
	Total	5,174		5,174
Total Aggregates		6,553	2,748	9,301
<i>Percent</i>		<i>70%</i>	<i>30%</i>	<i>100%</i>

Imports of primary aggregates by region: London

Thousand tonnes													
	Aggregate mineral	Total	South West	South East	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Scotland Outside GB
Sand and gravel	Land-won	402		123	279								
	Marine-dredged	977		962	15								
	Total	1,379		1,085	294								
Crushed rock	Limestone / dolomite	2,668	2,041		1	329			0		290		7
	Igneous rock	1,877	51			246				0			1,580
	Sandstone	629				0	5				128		497
	Chalk												
	Ironstone												
	Total	5,174	2,092		1	575	5		0	0	418		2,083
Total Aggregates		6,553	2,092	1,085	295	575	5		0	0	418		2,083

Table 5d Consumption of primary aggregates by region in 2023: East of England

Thousand tonnes				
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	557	8,706	9,263
	Marine-dredged	626	376	1,002
	Total	1,183	9,082	10,264
Crushed rock	Limestone / dolomite	2,818	2	2,820
	Igneous rock	3,323		3,323
	Sandstone	154	114	267
	Chalk	27		27
	Ironstone			
	Total	6,322	115	6,438
Total Aggregates		7,505	9,197	16,702
<i>Percent</i>		<i>45%</i>	<i>55%</i>	<i>100%</i>

Imports of primary aggregates by region: East of England

Thousand tonnes													
	Aggregate mineral	Total	South West	South East	London	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Scotland Outside GB
Sand and gravel	Land-won	557	1	122		387	42		5				
	Marine-dredged	626		73	553								
	Total	1,183	1	194	553	387	42		5				
Crushed rock	Limestone / dolomite	2,818	1,090	61		1,588	6		43			31	
	Igneous rock	3,323				1,420	2	4		0			453 1,444
	Sandstone	154				0	13				140		
	Chalk	27		27									
	Ironstone												
	Total	6,322	1,090	88		3,008	21	4	43	0	140	31	453 1,444
Total Aggregates		7,505	1,090	282	553	3,395	63	4	48	0	140	31	453 1,444

Table 5e Consumption of primary aggregates by region in 2023: East Midlands

Thousand tonnes				
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	1,245	3,999	5,244
	Marine-dredged			
	Total	1,245	3,999	5,244
Crushed rock	Limestone / dolomite	653	7,881	8,534
	Igneous rock	53	4,692	4,745
	Sandstone	148	10	158
	Chalk	23	232	255
	Ironstone			
	Total	878	12,815	13,693
Total Aggregates		2,123	16,814	18,937
<i>Percent</i>		<i>11%</i>	<i>89%</i>	<i>100%</i>

Imports of primary aggregates by region: East Midlands

Thousand tonnes													
	Aggregate mineral	Total	South West	South East	London	East of England	West Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Scotland Outside GB
Sand and gravel	Land-won	1,245				587	506		152				0
	Marine-dredged												
	Total	1,245				587	506		152				0
Crushed rock	Limestone / dolomite	653	6	7		1	216	34	390				
	Igneous rock	53					29	6	1	1	16		
	Sandstone	148				1	112		0		35		
	Chalk	23							23				
	Ironstone												
	Total	878	6	7		2	357	40	415	1	51		
Total Aggregates		2,123	6	7		588	863	40	567	1	51		0

Table 5f Consumption of primary aggregates by region in 2023: West Midlands

Thousand tonnes				
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	562	7,224	7,786
	Marine-dredged	14		14
	Total	576	7,224	7,800
Crushed rock	Limestone / dolomite	3,063	950	4,013
	Igneous rock	1,110	1,108	2,218
	Sandstone	262	1,187	1,448
	Chalk			
	Ironstone			
	Total	4,434	3,245	7,680
Total Aggregates		5,010	10,469	15,480
<i>Percent</i>		<i>32%</i>	<i>68%</i>	<i>100%</i>

Imports of primary aggregates by region: West Midlands

Thousand tonnes													
	Aggregate mineral	Total	South West	South East	London	East of England	East Midlands	North West	Yorkshire & Humber	North East	South Wales	North Wales	Scotland Outside GB
Sand and gravel	Land-won	562	4	43		190	135	48				142	
	Marine-dredged	14	14										
	Total	576	18	43		190	135	48				142	
Crushed rock	Limestone / dolomite	3,063	151	55		0	2,761	7	19	0	68	1	
	Igneous rock	1,110					888	0		1	218		0 2
	Sandstone	262					0		0		261		
	Chalk												
	Ironstone												
	Total	4,434	151	55		0	3,649	7	19	1	547	1	0 2
Total Aggregates		5,010	170	99		190	3,784	55	19	1	547	143	0 2

Table 5g Consumption of primary aggregates by region in 2023: North West

Thousand tonnes				
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	573	1,301	1,874
	Marine-dredged		286	286
	Total	573	1,587	2,160
Crushed rock	Limestone / dolomite	4,264	3,363	7,628
	Igneous rock	1,170	827	1,997
	Sandstone	514	1,373	1,887
	Chalk			
	Ironstone			
	Total	5,948	5,564	11,511
Total Aggregates		6,521	7,151	13,671
Percent		48%	52%	100%

Imports of primary aggregates by region: North West

Imports of primary aggregates by region: North West													Thousand tonnes	
	Aggregate mineral	Total	South West	South East	London	East of England	East Midlands	West Midlands	Yorkshire & Humber	North East	South Wales	North Wales	Scotland	Outside GB
Sand and gravel	Land-won	573				6	27	60	7	1		469	2	
	Marine-dredged													
	Total	573				6	27	60	7	1		469	2	
Crushed rock	Limestone / dolomite	4,264	1			0	2,414	67	417	2		1,294	70	
	Igneous rock	1,170					77	0	183	5	90	9	754	51
	Sandstone	514					13	82	234		4		180	
	Chalk													
	Ironstone													
	Total	5,948	1			0	2,503	150	835	7	95	1,303	1,004	51
Total Aggregates		6,521	1			7	2,530	210	842	8	95	1,771	1,006	51

Table 5h Consumption of primary aggregates by region in 2023: Yorkshire and the Humber

Thousand tonnes				
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	399	1,903	2,303
	Marine-dredged	57	357	414
	Total	456	2,260	2,717
Crushed rock	Limestone / dolomite	1,626	6,750	8,376
	Igneous rock	1,322	123	1,445
	Sandstone	24	1,109	1,133
	Chalk		117	117
	Ironstone			
	Total	2,972	8,099	11,071
Total Aggregates		3,428	10,360	13,788
<i>Percent</i>		<i>25%</i>	<i>75%</i>	<i>100%</i>

Imports of primary aggregates by region: Yorkshire and the Humber

Thousand tonnes													
	Aggregate mineral	Total	South West	South East	London	East of England	East Midlands	West Midlands	North West	North East	South Wales	North Wales	Scotland Outside GB
Sand and gravel	Land-won	399	0			7	222	1	6	161			2
	Marine-dredged	57								57			
	Total	456	0			7	222	1	6	218			2
Crushed rock	Limestone / dolomite	1,626	0			3	1,467	8	49	99			
	Igneous rock	1,322					276		54	125	3		470
	Sandstone	24					1	7			16		393
	Chalk												
	Ironstone												
	Total	2,972	0			3	1,744	15	103	224	20		470
Total Aggregates		3,428	0			10	1,966	15	110	442	20		472

Table 5i Consumption of primary aggregates by region in 2023: North East

Thousand tonnes				
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	164	771	935
	Marine-dredged		878	878
	Total	164	1,649	1,813
Crushed rock	Limestone / dolomite	402	3,667	4,069
	Igneous rock	203	1,477	1,680
	Sandstone	4		4
	Chalk			
	Ironstone			
	Total	608	5,144	5,753
Total Aggregates		772	6,794	7,566
<i>Percent</i>		<i>10%</i>	<i>90%</i>	<i>100%</i>

Imports of primary aggregates by region: North East

Thousand tonnes													
	Aggregate mineral	Total	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	South Wales	North Wales	Scotland Outside GB
Sand and gravel	Land-won	164				1	0		42	89			32
	Marine-dredged												
	Total	164				1	0		42	89			32
Crushed rock	Limestone / dolomite	402				1	2		56	342			
	Igneous rock	203					1		25	0			3
	Sandstone	4								3	1		0
	Chalk												
	Ironstone												
	Total	608				1	3		81	345	1		4
Total Aggregates		772				3	3		123	435	1		35

Table 5j Consumption of primary aggregates by region in 2023: South Wales

Thousand tonnes				
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	19	126	145
	Marine-dredged	36	668	704
	Total	55	794	849
Crushed rock	Limestone / dolomite	166	4,035	4,202
	Igneous rock	5	654	659
	Sandstone	6	1,476	1,481
	Chalk			
	Ironstone			
	Total	177	6,165	6,342
Total Aggregates		232	6,959	7,191
<i>Percent</i>		<i>3%</i>	<i>97%</i>	<i>100%</i>

Imports of primary aggregates by region: South Wales

Imports of primary aggregates by region: South Wales													Thousand tonnes	
	Aggregate mineral	Total	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	North Wales	Scotland	Outside GB
Sand and gravel	Land-won	19	0	0		6		12						
	Marine-dredged	36	36											
	Total	55	36	0		6		12						
Crushed rock	Limestone / dolomite	166	163			0	1	3						
	Igneous rock	5	1				4							
	Sandstone	6	5					1						
	Chalk													
	Ironstone													
	Total	177	169			0	5	3						
Total Aggregates		232	206	0		6	5	15						

Table 5k Consumption of primary aggregates by region in 2023: North Wales

Thousand tonnes				
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	17	234	251
	Marine-dredged		8	8
	Total	17	241	259
Crushed rock	Limestone / dolomite	75	2,338	2,413
	Igneous rock	257	1,283	1,539
	Sandstone	76		76
	Chalk			
	Ironstone			
	Total	407	3,621	4,028
	Total Aggregates	425	3,862	4,287
	<i>Percent</i>	<i>10%</i>	<i>90%</i>	<i>100%</i>

Imports of primary aggregates by region: North Wales

Thousand tonnes													
	Aggregate mineral	Total	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	South Wales	Scotland Outside GB
Sand and gravel	Land-won	17				0	1	13	2				
	Marine-dredged												
	Total	17				0	1	13	2				
Crushed rock	Limestone / dolomite	75	2				23	50					
	Igneous rock	257					1	0				255	1
	Sandstone	76						1		0		74	
	Chalk												
	Ironstone												
	Total	407	2				23	51		0		330	1
	Total Aggregates	425	2			0	25	65	2	0		330	1

Table 5I Consumption of primary aggregates by region in 2023: Argyll & Bute

		Thousand tonnes		
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	24	c	c
	Marine-dredged			
	Total	24	c	c
Crushed rock	Limestone / dolomite	0		0
	Igneous rock	100	c	c
	Sandstone	5		c
	Chalk			
	Ironstone			
	Total	104	c	c
	Total Aggregates	129	82	211
	<i>Percent</i>	<i>61%</i>	<i>39%</i>	<i>100%</i>

Imports of primary aggregates by region: Argyll & Bute

		Thousand tonnes													
	Aggregate mineral	Total	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	England	Wales	Outside GB
Sand and gravel	Land-won	24	3			0		13			0	0	4		
	Marine-dredged														
	Total	24	3			0		13			0	0	4		
Crushed rock	Limestone / dolomite	0											0		
	Igneous rock	100	16					20	0			61	3		
	Sandstone	5				5									
	Chalk														
	Ironstone														
	Total	104	16			5		20	0			61	3		
Total Aggregates		129	19			5		33	0		0	61	7		

1. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

Table 5m Consumption of primary aggregates by region in 2023: Ayrshire Authorities

Thousand tonnes				
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	40	224	264
	Marine-dredged			
	Total	40	224	264
Crushed rock	Limestone / dolomite		23	23
	Igneous rock	3	745	749
	Sandstone	15		15
	Chalk			
	Ironstone			
	Total	18	768	786
	Total Aggregates	59	992	1,051
	<i>Percent</i>	<i>6%</i>	<i>94%</i>	<i>100%</i>

Imports of primary aggregates by region: Ayrshire Authorities

Thousand tonnes															
	Aggregate mineral	Total	Argyll & Bute	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	England	Wales	Outside GB
Sand and gravel	Land-won	40			4	1	0					35			
	Marine-dredged														
	Total	40			4	1	0					35			
Crushed rock	Limestone / dolomite														
	Igneous rock	3										3			
	Sandstone	15			15										
	Chalk														
	Ironstone														
	Total	18			15							3			
	Total Aggregates	59			19	1	0					39			

Table 5n Consumption of primary aggregates by region in 2023: Comhairle nan Eilean Siar

Thousand tonnes				
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won		2	2
	Marine-dredged			
	Total		2	2
Crushed rock	Limestone / dolomite			
	Igneous rock		158	158
	Sandstone			
	Chalk			
	Ironstone			
	Total		158	158
	Total Aggregates		160	160
	<i>Percent</i>		<i>100%</i>	<i>100%</i>

Imports of primary aggregates by region: Comhairle nan Eilean Siar

Thousand tonnes															
	Aggregate mineral	Total	Argyll & Bute	Ayrshire Authorities	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	England	Wales	Outside GB
Sand and gravel	Land-won														
	Marine-dredged														
	Total														
Crushed rock	Limestone / dolomite														
	Igneous rock														
	Sandstone														
	Chalk														
	Ironstone														
	Total														
	Total Aggregates														

Table 5a Consumption of primary aggregates by region in 2023: Dumfries & Galloway

Thousand tonnes				
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	1	297	298
	Marine-dredged			
	Total	1	297	298
Crushed rock	Limestone / dolomite	0	86	86
	Igneous rock	73	32	104
	Sandstone		273	273
	Chalk			
	Ironstone			
	Total	73	390	464
Total Aggregates		74	687	761
<i>Percent</i>		<i>10%</i>	<i>90%</i>	<i>100%</i>

Imports of primary aggregates by region: Dumfries & Galloway

Thousand tonnes															
	Aggregate mineral	Total	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	England	Wales	Outside GB
Sand and gravel	Land-won	1					1						0		
	Marine-dredged														
	Total	1					1						0		
Crushed rock	Limestone / dolomite	0											0		
	Igneous rock	73		36								37	0		
	Sandstone														
	Chalk														
	Ironstone														
	Total	73		36								37	0		
Total Aggregates		74		36			1					37	0		

Table 5p Consumption of primary aggregates by region in 2023: East Central Scotland

Thousand tonnes				
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	216	563	779
	Marine-dredged			
	Total	216	563	779
Crushed rock	Limestone / dolomite			
	Igneous rock	705	1,155	1,859
	Sandstone		477	477
	Chalk			
	Ironstone			
	Total	705	1,631	2,336
	Total Aggregates	921	2,194	3,115
	<i>Percent</i>	<i>30%</i>	<i>70%</i>	<i>100%</i>

Imports of primary aggregates by region: East Central Scotland

Thousand tonnes															
	Aggregate mineral	Total	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	England	Wales	Outside GB
Sand and gravel	Land-won	217		12							69	77	0		
	Marine-dredged														
	Total	217		12							69	77	0		
Crushed rock	Limestone / dolomite														
	Igneous rock	705		50				28				446	1		
	Sandstone														
	Chalk														
	Ironstone														
	Total	705		50				28				446	1		
	Total Aggregates	922		62				28			69	523	2		

1. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

Table 5q Consumption of primary aggregates by region in 2023: Forth Valley

Thousand tonnes				
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	216	c	c
	Marine-dredged			
	Total	216	c	c
Crushed rock	Limestone / dolomite			
	Igneous rock	82	c	c
	Sandstone	0		0
	Chalk			
	Ironstone			
	Total	82	c	c
	Total Aggregates	298	431	729
	<i>Percent</i>	<i>41%</i>	<i>59%</i>	<i>100%</i>

Imports of primary aggregates by region: Forth Valley

Thousand tonnes															
	Aggregate mineral	Total	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	England	Wales	Outside GB
Sand and gravel	Land-won	216		10			170				11	25			
	Marine-dredged														
	Total	216		10			170				11	25			
Crushed rock	Limestone / dolomite														
	Igneous rock	82		22			30	0	1			28	0		
	Sandstone	0					0								
	Chalk														
	Ironstone														
	Total	82		22			31	0	1			28	0		
	Total Aggregates	298		32			200	0	1		11	54	0		

Table 5r Consumption of primary aggregates by region in 2023: Highland

Thousand tonnes				
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	9	199	208
	Marine-dredged			
	Total	9	199	208
Crushed rock	Limestone / dolomite	20	6	27
	Igneous rock	78	425	503
	Sandstone	2	3	5
	Chalk			
	Ironstone			
	Total	101	435	535
Total Aggregates		109	634	743
<i>Percent</i>		<i>15%</i>	<i>85%</i>	<i>100%</i>

Imports of primary aggregates by region: Highland

Thousand tonnes															
	Aggregate mineral	Total	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	England	Wales	Outside GB
Sand and gravel	Land-won	9						0					0		
	Marine-dredged														
	Total	9					0						0		
Crushed rock	Limestone / dolomite	20									20				
	Igneous rock	78		10					61						
	Sandstone	2					2								
	Chalk														
	Ironstone														
	Total	101		10			2		61		20				
Total Aggregates		109		10			2		61		20		0		

1. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

Table 5s Consumption of primary aggregates by region in 2023: North East Scotland

Thousand tonnes				
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	136	323	459
	Marine-dredged			
	Total	136	323	459
Crushed rock	Limestone / dolomite	5	45	50
	Igneous rock	36	666	702
	Sandstone	10	24	33
	Chalk			
	Ironstone			
	Total	51	735	786
	Total Aggregates	187	1,058	1,245
	<i>Percent</i>	<i>15%</i>	<i>85%</i>	<i>100%</i>

Imports of primary aggregates by region: North East Scotland

Thousand tonnes															
	Aggregate mineral	Total	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	Orkney & Shetland Islands	Tay Area	West Central Scotland	England	Wales	Outside GB
Sand and gravel	Land-won	136					0				136		0		
	Marine-dredged														
	Total	136					0				136		0		
Crushed rock	Limestone / dolomite	5									5				
	Igneous rock	36		10			0		1		25				
	Sandstone	10					10								
	Chalk														
	Ironstone														
	Total	51		10			10		1		30				
	Total Aggregates	187		10			10		1		166		0		

Table 5t Consumption of primary aggregates by region in 2023: Orkney & Shetland Islands

			Thousand tonnes	
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won		0	0
	Marine-dredged			
	Total		0	0
Crushed rock	Limestone / dolomite			
	Igneous rock		c	c
	Sandstone		c	c
	Chalk			
	Ironstone			
	Total		186	186
	Total Aggregates		187	187
	<i>Percent</i>		<i>100%</i>	<i>100%</i>

Imports of primary aggregates by region: Orkney & Shetland Islands

		Thousand tonnes													
	Aggregate mineral	Total	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	North East Scotland	Tay Area	West Central Scotland	England	Wales	Outside GB
Sand and gravel	Land-won														
	Marine-dredged														
	Total														
Crushed rock	Limestone / dolomite														
	Igneous rock														
	Sandstone														
	Chalk														
	Ironstone														
	Total														
	Total Aggregates														

Table 5u Consumption of primary aggregates by region in 2023: Tay area

Thousand tonnes				
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	14	289	303
	Marine-dredged			
	Total	14	289	303
Crushed rock	Limestone / dolomite		107	107
	Igneous rock	594	535	1,129
	Sandstone	5		5
	Chalk			
	Ironstone			
	Total	599	642	1,240
	Total Aggregates	613	930	1,543
	<i>Percent</i>	<i>40%</i>	<i>60%</i>	<i>100%</i>

Imports of primary aggregates by region: Tay area

Thousand tonnes															
	Aggregate mineral	Total	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	West Central Scotland	England	Wales	Outside GB
Sand and gravel	Land-won	14					3						2		
	Marine-dredged														
	Total	14					3						2		
Crushed rock	Limestone / dolomite														
	Igneous rock	594		10			567		6	11					
	Sandstone	5					5								
	Chalk														
	Ironstone														
	Total	599		10			572		6	11					
	Total Aggregates	613		10			576		6	11			2		

1. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

Table 5v Consumption of primary aggregates by region in 2023: West Central Scotland

Thousand tonnes				
	Aggregate mineral	Imports	Sales within Region	Total consumption
Sand and gravel	Land-won	639	742	1,381
	Marine-dredged			
	Total	639	742	1,381
Crushed rock	Limestone / dolomite			
	Igneous rock	1,314	2,986	4,300
	Sandstone	26		26
	Chalk			
	Ironstone			
	Total	1,340	2,986	4,326
	Total Aggregates	1,979	3,727	5,707
	<i>Percent</i>	<i>35%</i>	<i>65%</i>	<i>100%</i>

Imports of primary aggregates by region: West Central Scotland

Thousand tonnes															
	Aggregate mineral	Total	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	England	Wales	Outside GB
Sand and gravel	Land-won	639			30		472						3		
	Marine-dredged														
	Total	639			30		472						3		
Crushed rock	Limestone / dolomite														
	Igneous rock	1,314			912		138		60				0		
	Sandstone	26					26								
	Chalk														
	Ironstone														
	Total	1,340			912		164		60				0		
	Total Aggregates	1,979			942		636		60				3		

1. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

Table 6 Summary of sales of primary aggregates (sand & gravel and crushed rock) by major end use

Aggregate Use	Thousand tonnes															
	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	% England Total	South Wales	North Wales	Wales Total	% Wales Total	England & Wales Total
Coarse/fine concrete aggregate	5,595	6,840	2,499	5,867	6,313	5,084	1,101	3,086	1,702	38,087	30%	1,493	1,545	3,039	20%	41,126
Building/asphalting sand	761	1,383	1,060	1,162	664	892	385	256	461	7,025	5%	560	143	703	5%	7,728
Roadstone/gravel coated for asphalt	2,088			192	2,969	983	681	1,459	612	8,984	7%	1,872	615	2,487	16%	11,471
Roadstone, uncoated	4,515	115			7,522	1,058	910	2,451	1,380	17,952	14%	855	1,389	2,244	15%	20,196
Other screened and graded aggregates	9,326	2,338	296	1,118	8,024	1,142	1,721	3,181	1,169	28,316	22%	2,606	989	3,595	23%	31,911
Railway ballast	0				825	202	178			1,206	1%	1	443	444	3%	1,650
Armourstone and gabion stone	56	20			81	8	22	53	22	262	0%	40	45	84	1%	347
Other construction uses, including fill	4,097	3,598	551	2,478	5,490	2,626	2,527	2,692	1,907	25,966	20%	2,023	721	2,745	18%	28,711
Total Sales	26,438	14,295	4,407	10,817	31,889	11,995	7,526	13,178	7,252	127,797	100%	9,451	5,890	15,341	100%	143,138

Thousand tonnes															
Aggregate Use	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	Scotland Total	% Scotland Total	Great Britain	% Great Britain Total
Coarse/fine concrete aggregate	c	307	31	139	965	c	141	345	1	131	725	3,054	14%	44,180	27%
Building/asphalting sand	c	179		10	260	c		11		31	271	828	4%	8,556	5%
Roadstone/gravel coated for asphalt	c	586	90	204	861	c	262	276	24	185	592	3,491	16%	14,961	9%
Roadstone, uncoated		228		121	331		1,224	86	67	22	671	2,955	14%	23,151	14%
Other screened and graded aggregates	c	43		59	577	c	4,263	88	8	341	810	6,241	29%	38,152	23%
Railway ballast											185	185	1%	1,835	1%
Armourstone and gabion stone		1		6	10		123	1	6	32	4	187	1%	534	0%
Other construction uses, including fill	c	848	39	453	639	c	280	324	80	455	1,545	4,771	22%	33,482	20%
Total Sales	122	2,192	160	992	3,642	993	6,293	1,131	187	1,196	4,804	21,714	100%	164,851	100%

1. Sales include from land-based quarries and landings of marine-dredged sand & gravel, but not imports of aggregates from outside Great Britain.

2. Coated roadstone also includes material exported from the quarry site for coating with bituminous binder.

3. Roadstone uncoated includes rock chippings for surfacing dressing.

4. If only a total sales figure was provided by an operator, all sales for the site were assigned to 'other screened and graded aggregates'.

5. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

Table 7 Summary of sales of land-won primary aggregates by selected environmental designation in 2023

	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Wales Total	England & Wales Total
Thousand tonnes														
Sand and gravel														
All sites	2,254	4,904	514	10,145	4,968	7,973	1,440	2,632	933	35,763	126	844	970	36,733
National Park		66		45						111	87		87	199
NL / NSA	55	244		199		529				1,027				1,027
SSSI	588	274		577		253			411	2,103				2,103
National Nature Reserve									201	201				201
SPA and SAC	131	67		116		253			201	768				768
Green Belt	400	1,527		340	88	2,913	562	14		5,843				5,843
Crushed rock														
All sites	23,672	2,375		123	26,921	4,022	5,800	10,189	5,383	78,485	8,575	5,039	13,613	92,099
National Park	c	c			3,263		999	2,758	c	7,488	643		643	8,131
NL / NSA	2,756	128		67	202	240	80	425	441	4,339				4,339
SSSI	1,502			9	7,326	1,224	1,695	2,386	3,193	17,334	2,247	1,066	3,313	20,648
National Nature Reserve									713	713				713
SPA and SAC					360			818	713	1,891				1,891
Green Belt	932	1					450	4,432	130	5,945				5,945

													Thousand tonnes
	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	Scotland Total	Great Britain
Sand and gravel													
All sites	c	286	2	337	1,211	c	213	324	0	504	880	4,089	40,822
National Park												274	473
NL / NSA			0				16					16	1,043
SSSI							65					65	2,168
National Nature Reserve													201
SPA and SAC													768
Green Belt													5,843
Crushed rock													
All sites	c	1,906	158	655	2,432	c	6,080	808	186	692	3,924	17,625	109,724
National Park													8,131
NL / NSA			1		79							80	4,419
SSSI								197				207	20,855
National Nature Reserve													713
SPA and SAC													1,891
Green Belt		380										380	6,325

1. From land-based aggregate quarries only.
2. 'All sites' includes sales from all land-based mineral workings producing primary aggregates.
3. National Parks include the New Forest, the South Downs and The Broads.
4. Designations are not mutually exclusive, e.g. SSSIs may overlap with others, such as National Parks and National Landscapes. Special Areas of Conservation (SAC) and Special Protection Areas (SPA) are also SSSIs. They are sub-sets of SSSIs. Some designations, notably SSSIs, may only coincide with a small part of an extant planning permission. However, the total sales for the mineral working are recorded even though there may be no extraction within the designation. The degree of overlap, and the actual or potential impacts of mineral extraction on the conservation interest of the site will vary and are not reflected in the figures.
5. Green Belt is a planning policy designation.
6. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

Table 8 Sales of primary aggregates by principal transport method in 2023

Thousand tonnes

Region	Road			Rail			Water			Total
	Sand and gravel	Crushed rock	Total	Sand and gravel	Crushed rock	Total	Sand and gravel	Crushed rock	Total	
South West	2,700	15,062	17,762		8,579	8,579	66	37	103	26,443
South East	11,114	4,894	16,008	804	704	1,508	2		2	17,518
London	3,914	591	4,505	493		493				4,998
East of England	10,631	2,539	13,170		107	107	61	94	155	13,432
East Midlands	4,968	20,229	25,197		6,693	6,693				31,889
West Midlands	7,973	4,022	11,995							11,995
North West	1,726	6,020	7,747		266	266				8,012
Yorkshire & the Humber	2,989	9,311	12,300		1,284	1,284				13,585
North East	1,869	6,016	7,885							7,885
England	47,884	68,684	116,568	1,297	17,632	18,930	129	131	260	135,757
South Wales	876	7,913	8,789		661	661				9,451
North Wales	851	4,860	5,712		64	64		114	114	5,890
Wales	1,727	12,774	14,501		726	726		114	114	15,341
England and Wales	49,611	81,457	131,069	1,297	18,358	19,655	129	245	374	151,098
Argyll & Bute	c	c	122							122
Ayrshire Authorities	286	1,906	2,192							2,192
Comhairle nan Eilean Siar	2	158	160							160
Dumfries & Galloway	337	655	992							992
East Central Scotland	1,211	2,432	3,642							3,642
Forth Valley	c	c	993							993
Highland	213	456	669				1	5,624	5,624	6,293
North East Scotland	324	808	1,131							1,131
Orkney & Shetland Islands	0	186	187							187
Tay Area	504	692	1,196							1,196
West Central Scotland	880	3,564	4,444		315	315		45	45	4,804
Scotland	4,088	11,641	15,729		315	315	1	5,669	5,669	21,714
Great Britain	53,700	93,098	146,798	1,297	18,673	19,970	130	5,913	6,043	172,811

1. Crushed rock imported from outside England and Wales as distributed from wharves is included.

2. Marine sand and gravel as distributed from wharves is included.

3. Figures are based on sales by destination. Because of unallocated sales of unknown destination and small amounts for non-aggregate use being included, there will be differences in some regions compared with product sales.

4. 88.0% total sales by principal transport method is based on figures supplied by site operators. The remainder is based on estimates made by Mineral Planning Authorities.

5. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

Table 9a Sales of primary aggregates by MPA and principal destination sub-region in 2023: South West

Thousand tonnes											
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
South West	Bournemouth, Christchurch and Poole ^(a)	Dorset and Bournemouth, Christchurch & Poole	c	59%							
		South West	c	39%							
		Elsewhere	c	2%							
		MPA Total	c		c						
	Bristol City Council	West of England				356	84%				
		South West				14	3%				
		Elsewhere				54	13%				
		MPA Total				423		83%			
	Cornwall Council	Cornwall and Isles of Scilly							998	61%	
		South West							599	37%	
		Elsewhere							37	2%	
		MPA Total							1,635		7%
	Dartmoor National Park ^(b)	Devon, Plymouth, Torbay and Dartmoor National Park							c	100%	
		South West							c	0%	
		MPA Total							c		c
	Devon County Council ^(b)	Devon, Plymouth, Torbay and Dartmoor National Park	311	84%					2,184	86%	
		South West	57	16%					337	13%	
		Elsewhere	1	0%					8	0%	
		MPA Total	370		16%				2,529		11%
	Dorset Council ^(a)	Dorset and Bournemouth, Christchurch & Poole	279	29%			20	89%		171	100%
		South West	659	69%							
		Elsewhere	13	1%			3	11%		0	0%
		Unallocated	2	0%							
		MPA Total	953		42%		23		4%	171	

Table 9a Sales of primary aggregates by MPA and principal destination sub-region in 2023: South West

Thousand tonnes										
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA % AWP %
South West continued	Gloucestershire County Council	Gloucestershire	112	33%					550	64%
		South West	219	64%					5	1%
		Elsewhere	10	3%					306	36%
	MPA Total		341		15%				861	4%
	North Somerset Council ^(c)	West of England							c	58%
		South West							c	39%
		Elsewhere							c	3%
	MPA Total								c	c
	Plymouth City Council ^(b)	Devon, Plymouth, Torbay and Dartmoor National Park							c	1%
		South West							c	0%
									c	c
	MPA Total									
	Somerset County Council	Somerset and Exmoor National Park				66	100%		5,416	37%
		South West							2,199	15%
		South East							3,871	26%
		London							2,026	14%
		East of England							1,088	7%
		Elsewhere							138	1%
		Unallocated							1	0%
	MPA Total					66		13%	14,739	62%
	South Gloucestershire Council ^(c)	West of England							553	15%
		South West							2,373	63%
		Elsewhere							811	22%
	MPA Total								3,737	16%

Table 9a Sales of primary aggregates by MPA and principal destination sub-region in 2023: South West

Thousand tonnes											
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
South West continued	Wiltshire Council	Wiltshire and Swindon	323	55%							
		South West	139	23%							
		Elsewhere	129	22%							
		MPA Total	591		26%						
AWP Total			2,254		100%	512		100%	23,672		100%

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 Mt, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

a. Dorset also includes Bournemouth, Christchurch and Poole.

b. Devon also includes crushed rock for Dartmoor National Park and Plymouth.

c. South Gloucestershire also includes North Somerset.

Table 9b Sales of primary aggregates by MPA and principal destination sub-region in 2023: South East

Thousand tonnes										
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA % AWP %
South East	Buckinghamshire County Council	Buckinghamshire	734	74%						
		South East	198	20%						
		Elsewhere	55	6%						
	MPA Total		986		20%					
	East Sussex County Council ^(a)	East Sussex and Brighton & Hove and part of South Downs National Park	17	50%		631	100%			
		South East	17	50%						
		MPA Total	33		1%	631		9%		
	Hampshire County Council ^(b)	Hampshire, Portsmouth, Southampton, New Forest National Park and part of South Downs National Park	413	60%		1,742	90%			
		South East	149	22%		186	10%			
		Elsewhere	58	8%		8	0%			
		Unallocated	72	10%						
		MPA Total	692		14%	1,936		28%		
	Isle of Wight Council ^(b)	Isle of Wight	88	100%		c	100%		c	100%
		MPA Total	88		2%	c		c	c	c
	Kent County Council ^(c)	Kent and Medway	528	88%		1,695	93%		1,039	77%
		South East	30	5%		97	5%		251	19%
		Elsewhere	41	7%		39	2%		50	4%
		Unallocated	0	0%						
		MPA Total	598		12%	1,831		26%	1,341	56%
	Medway Council ^(c)	Medway	c	100%						
		South East				719	42%			
		Elsewhere				995	58%			
		MPA Total	c		c	1,713		24%		
	Milton Keynes Council	Milton Keynes	c	100%						
		MPA Total	c		c					
	New Forest National Park	Hampshire, Portsmouth, Southampton, New Forest National Park and part of South Downs National Park								
	MPA Total									

Table 9b Sales of primary aggregates by MPA and principal destination sub-region in 2023: South East

Thousand tonnes										
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA % AWP %
South East continued	Oxfordshire County Council	Oxfordshire	624	58%					785	78%
		South East	315	29%					89	9%
		Elsewhere	141	13%					128	13%
	MPA Total		1,080		22%				1,002	42%
	Portsmouth City Council ^(b)	Hampshire, Portsmouth, Southampton, New Forest National Park and part of South Downs National Park				c	89%			
		South East				c	11%			
		Elsewhere				c	0%			
		MPA Total				c		c		
	South Downs National Park ^(d)	South East	c	76%					c	5%
		Elsewhere	c	24%					c	95%
	MPA Total		c		c				c	c
	Southampton City Council ^(b)	Hampshire, Portsmouth, Southampton, New Forest National Park and part of South Downs National Park				c	96%			
		South East				c	4%			
		Elsewhere				c	0%			
		MPA Total				c		c		
	Surrey County Council	Surrey	180	39%						
		South East	281	61%						
	MPA Total		461		9%					
	West Berkshire Council	West Berkshire	24	100%						
		MPA Total	24		0%					
	West Sussex County Council ^(d)	West Sussex and part of South Downs National Park	183	58%		271	30%			
		South East	74	23%		633	70%			
		Elsewhere	16			2	0%			
		Unallocated	44	14%						
	MPA Total		318		6%	906		13%		

Table 9b Sales of primary aggregates by MPA and principal destination sub-region in 2023: South East

Thousand tonnes											
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
South East continued	Windsor & Maidenhead (Royal Borough of)	Central and Eastern Berkshire Authorities	319	65%							
		South East	61	12%							
		Elsewhere	113	23%							
	MPA Total	493	10%								
AWP Total			4,904	100%		7,016	100%		2,375	100%	

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 Mt, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

a. East Sussex also includes marine-dredged sand and gravel for Brighton and Hove.

b. Hampshire also includes marine-dredged sand and gravel for Southampton, Portsmouth and the Isle of Wight.

c. Kent also includes land-won sand and gravel for Medway.

d. West Sussex also includes land-won sand and gravel for the South Downs National Park.

Table 9c Sales of primary aggregates by MPA and principal destination sub-region in 2023: London

											Thousand tonnes	
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %	
London	London ^(a)	London	514	100%		2234	57%					
		South East				1014						
		East of England				553						
		Elsewhere				93	2%					
		MPA Total	514			3,893						
AWP Total			514		100%	3,893		100%				

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 Mt, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

a. East and West London have been combined to maintain confidentiality.

Table 9d Sales of primary aggregates by MPA and principal destination sub-region in 2023: East of England

Thousand tonnes										
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA % AWP %
East of England	Bedford Borough Council ^(a)	Bedfordshire (Central Bedfordshire, Bedford and Luton)	c	17%						
		East of England	c	33%						
		Elsewhere	c	50%						
		MPA Total	c		c					
	Cambridgeshire County Council ^(b)	Cambridgeshire and Peterborough	1,401	49%						
		East of England	810	29%					c	18%
		Elsewhere	627	22%					c	82%
		MPA Total	2,838		28%				c	7%
	Central Bedfordshire Council ^(a)	Bedfordshire (Central Bedfordshire, Bedford and Luton)	861	63%					c	100%
		East of England	115	8%						
		Elsewhere	390	29%						
		Unallocated	0	0%						
		MPA Total	1,366		13%				c	3%
	Essex County Council ^(c)	Essex, Southend-on-Sea and Thurrock	2,032	67%						
		East of England	815	27%						
		Elsewhere	195	6%						
		Unallocated	0	0%						
		MPA Total	3,042		30%					
	Hertfordshire County Council	Hertfordshire	614	79%						
		East of England	81	10%						
		Elsewhere	83	11%						
		MPA Total	779		8%					
	Norfolk County Council	Norfolk	1,052	83%					c	85%
		East of England	211	17%					c	14%
		Elsewhere	2	0%					c	1%
		MPA Total	1,265		12%				c	90%

Table 9d Sales of primary aggregates by MPA and principal destination sub-region in 2023: East of England

Thousand tonnes											
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
East of England continued	Peterborough ^(b)	Cambridgeshire and Peterborough	c	55%							
		East of England	c	15%							
		Elsewhere	c	30%							
		MPA Total	c		c						
	Suffolk County Council	Suffolk	339	40%		245	100%				
		East of England	375	44%							
		Unallocated	140	16%							
		MPA Total	855		8%	245		45%			
	Thurrock Borough Council ^(c)	Essex, Southend-on-Sea and Thurrock	c	50%		130	43%				
		East of England				0	0%				
		Elsewhere	c	50%		33	11%				
		Unallocated				140	46%				
		MPA Total	c		c	304		55%			
AWP Total			10,144		100%	549		100%	123	100%	

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 Mt, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

a. Central Bedfordshire also includes land-won sand and gravel for Bedford Borough.

b. Cambridgeshire also includes land-won sand and gravel for Peterborough.

c. Essex also includes land-won sand and gravel for Thurrock.

Table 9e Sales of primary aggregates by MPA and principal destination sub-region in 2023: East Midlands

Thousand tonnes										
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA % AWP %
East Midlands	Derbyshire County Council	Derbyshire & Peak District National Park	513	62%					3,518	30%
		East Midlands	244	30%					796	7%
		South East							680	6%
		East of England							581	5%
		West Midlands							1,907	16%
		North West							1,912	16%
		Yorkshire and the Humber							1,399	12%
		Elsewhere	67	8%					147	1%
		Unallocated							710	6%
	MPA Total		824		17%				11,652	43%
	Leicestershire County Council	Leicestershire & Rutland	139	63%					4,544	48%
		East Midlands	26	12%					1,081	11%
		South East							711	7%
		London							246	3%
		East of England							1,420	15%
		West Midlands							1,122	12%
		Yorkshire and the Humber							276	3%
		Elsewhere	56	25%					111	1%
		Unallocated							51	1%
	MPA Total		221		4%				9,562	36%
	Lincolnshire County Council	Lincolnshire	1,191	52%					857	53%
		East Midlands	608	26%					215	13%
		Elsewhere	507	22%					560	34%
	MPA Total		2,306		46%				1,632	6%
	Northamptonshire ^(a)	Northamptonshire	313	67%					40	5%
		East Midlands	14	3%					784	88%
		Elsewhere	32						69	8%
		Unallocated	111	24%						
	MPA Total		470		9%				894	3%

Table 9e Sales of primary aggregates by MPA and principal destination sub-region in 2023: East Midlands

Thousand tonnes											
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
East Midlands continued	Nottinghamshire County Council	Nottinghamshire	568	50%							
		East Midlands	382	16%							
		Elsewhere	180	16%							
		Unallocated	17	1%							
	MPA Total		1,146		23%						
	Peak District National Park	Derbyshire & Peak District National Park								686	24%
		East Midlands								219	8%
		South East								248	9%
		London								207	7%
		East of England								412	14%
		West Midlands								549	19%
		North West								515	18%
		Elsewhere								68	2%
	MPA Total								2,903		11%
	Rutland County Council	Leicestershire & Rutland								19	7%
		East Midlands								56	20%
		Elsewhere								40	14%
		Unallocated								165	59%
	MPA Total								279		1%
	AWP Total			4,968		100%				26,921	

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 Mt, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

a. North Northamptonshire and West Northamptonshire have been combined to maintain confidentiality.

Table 9f Sales of primary aggregates by MPA and principal destination sub-region in 2023: West Midlands

Thousand tonnes										
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA % AWP %
West Midlands	Herefordshire Council	Herefordshire	c	57%					c	43%
		West Midlands	c	23%					c	44%
		Elsewhere	c	20%					c	14%
		MPA Total	c		c				c	c
	Shropshire County Council ^(a)	Shropshire and Telford and Wrekin	303	23%					1,146	47%
		West Midlands	953	73%					908	37%
		Elsewhere	45	3%					297	12%
		Unallocated	0	0%					100	4%
		MPA Total	1,301		16%				2,450	61%
	Solihull Metropolitan Borough Council	Remainder of West Midlands	c	99%						
		Elsewhere	c	1%						
		MPA Total	c		c					
	Staffordshire County Council	Staffordshire	2,572	50%					c	58%
		West Midlands	2,038	39%					c	9%
		Elsewhere	587	11%					c	32%
		MPA Total	5,197		65%				c	c
	Telford and Wrekin Council ^(a)	Shropshire and Telford and Wrekin							c	33%
		West Midlands							c	67%
		MPA Total							c	c
	Warwickshire County Council	Warwickshire	34	9%					c	68%
		West Midlands	332	89%					c	20%
		Elsewhere	6	2%					c	12%
		MPA Total	373		5%				c	c

Table 9f Sales of primary aggregates by MPA and principal destination sub-region in 2023: West Midlands

Thousand tonnes										
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA % AWP %
West Midlands continued	Worcestershire County Council	Worcestershire	184	54%						
		West Midlands	87	26%						
		Elsewhere	69	20%						
	MPA Total		340		4%					
AWP Total			7,973		100%				4,022	100%

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 Mt, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

a. Shropshire includes crushed rock for Telford and Wrekin.

Table 9g Sales of primary aggregates by MPA and principal destination sub-region in 2023: North West

Thousand tonnes										
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA % AWP %
North West	Cheshire East Council	North West	37	39%					1	100%
		Elsewhere	16	17%						
		Unallocated	41	44%						
		MPA Total	94		6%				1	0%
	Cheshire West & Chester Council	Cheshire West and Chester	396	74%						
		North West	108	20%						
		Elsewhere	35	7%						
		MPA Total	539		37%					
	Cumberland Council	Cumberland and part of the Lake District National Park	305	50%					453	50%
		North West	278	46%					323	36%
		Elsewhere	23	4%					132	15%
		MPA Total	605		42%				908	16%
	Greater Manchester, Merseyside, Halton & Warrington	Greater Manchester, Merseyside, Halton & Warrington	26	92%		40	14%			
		North West	2	8%		246	86%		403	100%
		MPA Total	28		2%	286	100%		403	7%
	Lake District National Park	North West							987	99%
		Elsewhere							12	1%
		MPA Total							999	17%
	Lancashire County Council	Lancashire, Blackpool and Blackburn with Darwen	4	15%					1,827	64%
		North West	25	85%					983	35%
		Elsewhere							34	1%
		MPA Total	29		2%				2,843	49%

Table 9g Sales of primary aggregates by MPA and principal destination sub-region in 2023: North West

										Thousand tonnes	
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %
North West continued	Westmorland and Furness Council	Westmorland & Furness and part of the Lake District National Park	12	8%					22	3%	
		North West	108	75%					565	88%	
		Elsewhere	24	17%					58	9%	
		MPA Total	145		10%				645		11%
AWP Total			1,440		100%	286		100%	5,800		100%

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 Mt, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

Table 9h Sales of primary aggregates by MPA and principal destination sub-region in 2023: Yorkshire and the Humber

Thousand tonnes										
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA % AWP %
Yorkshire & the Humber	Bradford Metropolitan Borough Council	West Yorkshire							0	100%
	MPA Total								0	0%
	Calderdale	West Yorkshire							136	98%
		Yorkshire & the Humber							3	2%
	MPA Total								140	1%
	Doncaster Metropolitan Borough Council	South Yorkshire	148	22%					1,400	53%
		Yorkshire & the Humber	85	13%					675	25%
		Elsewhere	77	12%					350	13%
		Unallocated	351	53%					230	9%
	MPA Total		661		25%				2,655	26%
	East Riding of Yorkshire Council ^(a)	Humber (East Riding, North Lincolnshire and North East Lincolnshire)	205	30%					39	81%
		Yorkshire & the Humber	290	43%					9	19%
		Elsewhere	80	12%						
		Unallocated	100	15%						
	MPA Total		675		26%				48	0%
	Kingston upon Hull City Council	Humber (East Riding, North Lincolnshire and North East Lincolnshire)					c	50%		
		Yorkshire & the Humber					c	50%		
	MPA Total						c		c	
	Kirklees Metropolitan	West Yorkshire							93	100%
	MPA Total								93	1%
	Leeds City Council	West Yorkshire							130	22%
		Yorkshire & the Humber							461	78%
	MPA Total								591	6%
	North East	Humber (East Riding, North					c	100%		
	MPA Total						c		c	

Table 9h Sales of primary aggregates by MPA and principal destination sub-region in 2023: Yorkshire and the Humber

										Thousand tonnes		
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %	
Yorkshire & the Humber continued	North Lincolnshire Council ^(a)	Humber (East Riding, North Lincolnshire and North East Lincolnshire)	c	1%					97	53%		
		Yorkshire & the Humber				c	100%		23	13%		
		Elsewhere	c	44%					63	35%		
		Unallocated	c	55%								
		MPA Total	c		c		c		c	183	2%	
	North Yorkshire County Council	North Yorks, Yorkshire Dales and North York Moors National Parks	903	72%						1,584	52%	
		Yorkshire & the Humber	226	18%						940	31%	
		Elsewhere	101	8%						357	12%	
		Unallocated	21	2%						175	6%	
		MPA Total	1,250		47%					3,056	30%	
	Wakefield M. B. Council	Yorkshire & the Humber							662	100%		
	MPA Total								662	7%		
	Yorkshire Dales National Park	North Yorks, Yorkshire Dales and North York Moors National Parks								551	20%	
		Yorkshire & the Humber								1,296	47%	
		Elsewhere								911	33%	
		Unallocated								0	0%	
	MPA Total								2,758	27%		
AWP Total			2,632		100%	357		100%	10,186		100%	

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 Mt, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

4. To maintain confidentiality some MPA figures have been left blank. The totals remain correct.

a. East Riding of Yorkshire also includes land-won sand and gravel for North Lincolnshire.

Table 9i Sales of primary aggregates by MPA and principal destination sub-region in 2023: North East

Thousand tonnes										
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA % AWP %
North East	Durham County Council	Durham	238	44%					1,726	59%
		North East	137	25%					1,016	35%
		Elsewhere	162	30%					190	6%
	MPA Total		538		58%				2,932	54%
	Northumberland County Council ^(a)	Northumberland and the National Park	74	40%		21	33%		1,360	75%
		North East	112	60%		43	67%		412	23%
		Elsewhere	0	0%					49	3%
	MPA Total		187		20%	64		7%	1,821	34%
	Northumberland National Park ^(a)	Northumberland and the National Park							c	94%
		North East							c	1%
		Elsewhere							c	5%
	MPA Total								c	c
	Tees Valley	Tees Valley				277	46%			
		North East				269	45%			
		Elsewhere				57	9%			
	MPA Total					603		65%		
	Tyne and Wear	Tyne and Wear	209	100%		237	88%			
		North East				31	12%			
	MPA Total		209		22%	268		29%		
AWP Total			933		78%	935		100%	5,383	100%

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 Mt, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

a. Northumberland also includes crushed rock for Northumberland National Park.

Table 9j Sales of primary aggregates by MPA and principal destination sub-region in 2023: South Wales

Thousand tonnes										
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA % AWP %
South Wales	Blaenau Gwent ^(a)	South East Wales							c	100%
	MPA Total								c	c
	Brecon Beacons	Remainder of South Wales							c	3%
	National Park ^(b)	South Wales							c	97%
		Elsewhere							c	0%
	MPA Total								c	c
	Bridgend ^(c)	South East Wales							c	77%
		South Wales							c	23%
		Elsewhere							c	0%
	MPA Total								c	c
	Caerphilly ^(a)	South East Wales							1,061	57%
		South Wales							105	6%
		Elsewhere							688	37%
	MPA Total								1,854	22%
	Cardiff County Council ^(c)	South East Wales				184	95%		1,683	86%
		South Wales				10	5%		266	14%
		Elsewhere							3	0%
	MPA Total					194	26%		1,952	23%
	Carmarthenshire	Remainder of South Wales							744	94%
		South Wales				180	100%		51	6%
	MPA Total					180	24%		795	9%
	Ceredigion	Remainder of South Wales	c	89%					101	100%
		South Wales	c	11%						
	MPA Total		c		c				101	1%
	Merthyr Tydfil ^(d)	South East Wales							c	39%
		Elsewhere							c	61%
	MPA Total								c	c

Table 9j Sales of primary aggregates by MPA and principal destination sub-region in 2023: South Wales

Thousand tonnes										
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA % AWP %
South Wales continued	Neath Port Talbot	South East Wales							162	80%
		South Wales				8	100%			
		Elsewhere							40	20%
	MPA Total					8		1%	202	2%
	Newport	South East Wales				65	20%			
		South Wales				181	55%			
		Elsewhere				82	25%			
	MPA Total					327		44%		
	Pembrokeshire	Remainder of South Wales				14	100%		525	83%
		South Wales							111	
						14		2%	636	7%
	Pembrokeshire Coast National Park	Remainder of South Wales	c	70%					c	49%
		South Wales	c	30%					c	51%
			c		c				c	c
	Powys ^(b)	Remainder of South Wales							534	20%
		South Wales							608	23%
		South West							289	11%
		London							115	4%
		East of England							138	5%
		West Midlands							475	18%
		North Wales							329	12%
		Elsewhere							170	6%
	MPA Total								2,659	31%
	Rhondda, Cynon, Taf (Taff) ^(d)	South East Wales							215	57%
		Elsewhere							162	43%
									377	4%

Table 9j Sales of primary aggregates by MPA and principal destination sub-region in 2023: South Wales

Thousand tonnes										
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA % AWP %
South Wales continued	Swansea (City of)	South Wales				27	100%			
	MPA Total					27		4%		
	Vale of Glamorgan ^(c)	South East Wales							c	73%
		South Wales							c	27%
	MPA Total								c	c
RAWP Total			126		100%	749		100%	8,575	100%

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 Mt, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

a. Caerphilly also includes crushed rock for Blaenau Gwent.

b. Powys also includes crushed rock for Brecon Beacons National Park.

c. Cardiff also include crushed rock for Bridgend and Vale of Glamorgan.

d. Rhondda, Cynon, Taf (Taff) also includes crushed rock for Merthyr Tydfil.

e. Pembrokeshire also includes crushed rock for Pembrokeshire National Park.

Table 9k Sales of primary aggregates by MPA and principal destination sub-region in 2023: North Wales

Thousand tonnes										
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA % AWP %
North Wales	Conwy (Aberconwy & Colwyn)	North East Wales							278	25%
		North Wales							538	48%
		Elsewhere							305	27%
	MPA Total								1,121	22%
	Denbighshire	North East Wales							503	83%
		Elsewhere							100	17%
	MPA Total								604	12%
	Flintshire ^(a)	North East Wales	c	46%					444	21%
		North Wales	c	9%					663	31%
		North West							1,012	48%
		Elsewhere	c	46%					1	0%
	MPA Total		c		c				2,120	42%
	Gwynedd ^(b)	North West Wales							c	81%
		North Wales	31	100%		8	100%		c	19%
	MPA Total		31		4%	8	100%		c	c
	Isle of Anglesey ^(b)	North West Wales							325	27%
		North Wales							869	73%
	MPA Total								1,194	24%

Table 9k Sales of primary aggregates by MPA and principal destination sub-region in 2023: North Wales

											Thousand tonnes	
Source Region	Source MPA	Destination	Land-won sand and gravel	MPA %	AWP %	Marine sand and gravel	MPA %	AWP %	Crushed rock	MPA %	AWP %	
North Wales continued	Wrexham ^(a)	North East Wales	193	24%								
		North Wales	10	1%								
		Elsewhere	610	75%								
	MPA Total		813		96%							
RAWP Total			844		100%	8		100%	5,039		100%	

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.

2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside England and Wales.

3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 Mt, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

a. Wrexham includes land-won sand and gravel for Flintshire.

b. Isle of Anglesey includes crushed rock for Gwynedd.

Table 9I Sales of primary aggregates by MPA and principal destination sub-region in 2023: Scotland

Source Region	Destination	Land-won sand and gravel	Region %	Scotland %	Marine sand and gravel	Region %	Scotland %	Thousand tonnes		
								Crushed rock	Region %	Scotland %
Argyll & Bute	Argyll & Bute	c	c					c	c	
	Elsewhere	c	c					c	c	
	Region Total	c		c				c		c
Ayrshire Authorities	Ayrshire Authorities	224	78%					768	40%	
	West Central Scotland							912	48%	
	Elsewhere	56	19%					153	8%	
	Unallocated	6	2%					72	4%	
	Region Total	286		7%				1,906		11%
Comhairle nan Eilean Siar (Western Isles)	Comhairle nan Eilean Siar (Western Isles)	2	100%					158	100%	
	Region Total	2		0%				158		1%
Dumfries & Galloway	Dumfries & Galloway	297	88%					390	60%	
	Elsewhere	40	12%					265	40%	
	Region Total	337		8%				655		4%
East Central Scotland	East Central Scotland	563	47%					1,631	67%	
	Elsewhere	648	53%					800	33%	
	Region Total	1,211		30%				2,432		14%
Forth Valley	Forth Valley	c	c					c	c	
	Elsewhere	c	c					c	c	
	Region Total	c		c				c		c
Highland	Highland	199	93%					435	7%	
	England							2,994	49%	
	Europe							2,536	42%	
	Elsewhere	14	7%					115	2%	
	Region Total	213		5%				6,080		34%
North East Scotland	North East Scotland	323	100%					735	91%	
	Elsewhere	0	0%					73	9%	
	Region Total	324		8%				808		5%
Orkney & Shetland Islands	Orkney & Shetland Islands	0	100%					186	100%	
	Region Total	0		0%				186		1%

Table 9I Sales of primary aggregates by MPA and principal destination sub-region in 2023: Scotland

Source Region	Destination	Land-won sand and gravel	Region %	Scotland %	Marine sand and gravel	Region %	Scotland %	Thousand tonnes		
								Crushed rock	Region %	Scotland %
Tay Area	Tay Area	289	57%					642	93%	
	Elsewhere	216	43%					50	7%	
	Region Total	504		12%				692		4%
West Central Scotland	West Central Scotland	742	84%					2,986	76%	
	Elsewhere	139	16%					938	24%	
	Region Total	880		22%				3,924		22%
Scotland Total		4,089		100%				17,625		100%

1. For aggregate use only. Regional totals may not agree with those in Table 2a and Table 4 due to under-reporting of destination data or because small amounts for non-aggregate use have been included for a few MPAs.
2. Sales of primary aggregates include sales from land-based quarries and sales of marine-dredged sand and gravel, but not imports of crushed rock from outside Scotland.
3. In order to summarise the large amount of data available, this table only shows, for every MPA, sales by home sub-region and remaining sales in home region (excluding home sub-region). Unless otherwise stated, all other allocated sales to other regions are included under 'Elsewhere'. For those MPAs where this figure exceeds 1 Mt, the main destination regions are also listed. Unallocated sales of unknown destination are also shown.

Table 10 Imports of primary aggregates by sub-region in 2023

		Thousand tonnes				
Region	Sub-region	Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregates
South West	West of England	90		90	374	463
	Cornwall and Isles of Scilly	2		2	129	131
	Devon, Plymouth, Torbay and Dartmoor National Park	30	2	32	580	612
	Dorset and Bournemouth, Christchurch & Poole	53	4	57	279	336
	Gloucestershire	244	91	335	1,570	1,905
	Somerset and Exmoor National Park	104	3	107	729	836
	Wiltshire and Swindon	144	3	147	909	1,056
	Unknown in the South West	654		654	1,509	2,163
	Total	1,320	103	1,423	6,079	7,502
South East	Buckinghamshire	237	0	237	1,132	1,369
	Central and Eastern Berkshire Authorities	88	177	264	951	1,215
	East Sussex and Brighton & Hove and part of South Downs NP	30	1,198	1,227	568	1,795
	Hampshire, Portsmouth, Southampton, New Forest NP and part of South Downs NP	182	78	260	637	897
	Isle of Wight	0		0	7	7
	Kent	31	788	820	2,227	3,047
	Medway	0	30	30	204	234
	Milton Keynes	54		54	169	223
	Oxfordshire	50	4	53	2,432	2,486
	Surrey	33	179	211	300	512
	West Berkshire	5		5	58	63
	West Sussex and part of South Downs National Park	36	164	200	418	618
	Unknown in the South East	814	3	817	42	860
	Total	1,559	2,620	4,179	9,148	13,326
London	East London	142	18	160	821	981
	West London	125	643	769	747	1,516
	Unknown in Greater London	360	1,425	1,785	3,606	5,391
	Total	627	2,086	2,714	5,174	7,888
East of England	Bedfordshire (Central Bedfordshire, Bedford and Luton)	235	14	249	658	906
	Cambridgeshire and Peterborough	451		451	1,052	1,503
	Essex, Southend-on-Sea and Thurrock	42	497	539	2,226	2,765
	Hertfordshire	205	110	315	856	1,171
	Norfolk	246	6	252	1,082	1,334
	Suffolk	270		270	415	685
	Unknown in the East of England	1,514		1,514	52	1,565
	Total	2,963	626	3,590	6,340	9,929

Table 10 Imports of primary aggregates by sub-region in 2023

		Thousand tonnes				
Region	Sub-region	Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregates
East Midlands	Derbyshire and Peak District National Park	368		368	582	950
	Leicestershire and Rutland	971		971	372	1,343
	Lincolnshire	250		250	466	716
	Northamptonshire	481		481	953	1,433
	Nottinghamshire	346		346	904	1,250
	Unknown in the East Midlands	104		104	753	857
	Total	2,520		2,520	4,029	6,550
West Midlands	Herefordshire	122	13	134	197	331
	Shropshire and Telford and Wrekin	220		220	278	498
	Staffordshire	58		58	852	909
	Warwickshire	321		321	1,307	1,628
	Worcestershire	54	1	55	385	441
	Remainder of West Midlands	540		540	2,059	2,599
	Unknown in the West Midlands	2,699		2,699	557	3,256
	Total	4,013	14	4,027	5,636	9,662
North West	Cheshire East	154		154	358	512
	Cheshire West and Chester	63	4	67	1,381	1,449
	Cumberland and part of the Lake District National Park	55		55	878	932
	Greater Manchester, Merseyside, Halton & Warrington	192		192	2,945	3,136
	Lancashire, Blackpool and Blackburn with Darwen	112	14	126	1,534	1,660
	Westmorland & Furness and part of the Lake District National Park	147		147	250	397
	Unknown in the North West	407	228	635	1,865	2,501
	Total	1,130	246	1,377	9,210	10,587
Yorkshire & the Humber	Humber (East Riding, North Lincolnshire and North East Lincolnshire)	21		21	451	472
	North Yorks, Yorkshire Dales and North York Moors National Parks	156	0	156	813	969
	South Yorkshire	262	2	264	1,034	1,298
	West Yorkshire	448	73	522	2,146	2,668
	Unknown in Yorkshire & the Humber	113	199	312	2,598	2,909
	Total	1,000	275	1,274	7,042	8,316
North East	Durham	67	112	179	462	641
	Northumberland and the National Park	48	2	50	200	250
	Tees Valley	102		102	662	765
	Tyne and Wear	186	89	275	766	1,041
	Unknown in the North East	10	140	150	246	396
	Total	413	343	756	2,336	3,093
England		15,545	6,314	21,859	54,994	76,853

Table 10 Imports of primary aggregates by sub-region in 2023

		Thousand tonnes				
Region	Sub-region	Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregates
South Wales	South East Wales	3	30	33	720	753
	Remainder of South Wales	9	197	206	82	288
	Unknown but somewhere in South Wales	37	215	252	515	767
	Total	49	441	491	1,317	1,808
North Wales	North East Wales	10		10	288	298
	North West Wales	1		1	486	487
	Unknown but somewhere in North Wales	48	8	55	1,703	1,758
	Total	58	8	66	2,477	2,543
Wales		107	449	557	3,795	4,352
England and Wales		15,653	6,763	22,416	58,789	81,204
Scotland	Argyll & Bute	24		24	104	129
	Ayrshire Authorities	40		40	18	59
	Comhairle nan Eilean Siar					
	Dumfries & Galloway	1		1	73	74
	East Central Scotland	216		216	705	921
	Forth Valley	216		216	82	298
	Highland	9		9	101	109
	North East Scotland	136		136	51	187
	Orkney & Shetland Islands					
	Tay Area	14		14	599	613
	West Central Scotland	639		639	1,340	1,979
Scotland		1,296		1,296	3,073	4,369
Great Britain		16,948	6,763	23,711	61,862	85,573

1. Figures for imports by sub-region cannot be compared with imports by region (Tables 3 and 5). The latter show only inter-regional flows of primary aggregates. This table of imports by sub-region includes not only imports from other regions (inter-regional flows) but also flows from sub-region to sub-region within the same region.

2. In the case of sales of marine sand and gravel and crushed rock, imports are only shown where material has been moved outside the home sub-region where the wharf is located.

3. The sub-regions used for the survey are shown on Map 2 (Scotland) and Map 5 (England and Wales).

Table 11 Consumption of primary aggregates by sub-region in 2023

Region	Sub-region	Thousand tonnes				
		Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregates
South West	West of England	90	356	446	927	1,372
	Cornwall and Isles of Scilly	2		2	1,128	1,130
	Devon, Plymouth, Torbay and Dartmoor National Park	341	2	343	2,764	3,108
	Dorset and Bournemouth, Christchurch & Poole	331	24	356	450	806
	Gloucestershire	356	91	447	2,120	2,567
	Somerset and Exmoor National Park	104	69	173	6,145	6,318
	Wiltshire and Swindon	467	3	470	909	1,379
	Unknown in the South West	654		654	1,509	2,163
	Total	2,345	545	2,890	15,951	18,841
South East	Buckinghamshire	970	0	970	1,132	2,103
	Central and Eastern Berkshire Authorities	406	177	583	951	1,534
	East Sussex and Brighton & Hove and part of South Downs National Park	46	1,828	1,874	568	2,442
	Hampshire, Portsmouth, Southampton, New Forest National park and part of South Downs National park	594	1,820	2,414	637	3,052
	Isle of Wight	88	53	141	10	151
	Kent ^(a)	559	2,483	3,043	3,266	6,309
	Medway ^(a)	c	30	30	204	234
	Milton Keynes	184		184	169	354
	Oxfordshire	674	4	677	3,218	3,895
	Surrey	213	179	391	300	692
	West Berkshire	29		29	58	87
	West Sussex and part of South Downs National Park	219	435	654	418	1,073
	Unknown in the South East	814	3	817	42	860
	Total	4,797	7,012	11,809	10,975	22,784
London	East London	319	1,142	1,462	821	2,283
	West London	237	643	880	747	1,627
	Unknown in Greater London	360	1,425	1,785	3,606	5,391
	Total	916	3,211	4,127	5,174	9,301
East of England	Bedfordshire (Central Bedfordshire, Bedford and Luton)	1,096	14	1,110	662	1,771
	Cambridgeshire and Peterborough	1,852		1,852	1,052	2,904
	Essex, Southend-on-Sea and Thurrock	2,074	627	2,701	2,226	4,927
	Hertfordshire	819	110	929	856	1,785
	Norfolk	1,298	6	1,304	1,177	2,480
	Suffolk	610	245	855	415	1,270
	Unknown in the East of England	1,514		1,514	52	1,565
	Total	9,263	1,002	10,264	6,438	16,702

Table 11 Consumption of primary aggregates by sub-region in 2023

Region	Sub-region	Thousand tonnes				
		Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregates
East Midlands	Derbyshire and Peak District National Park	881		881	4,786	5,667
	Leicestershire and Rutland	1,111		1,111	4,934	6,045
	Lincolnshire	1,440		1,440	1,323	2,763
	Northamptonshire	794		794	993	1,787
	Nottinghamshire	914		914	904	1,818
	Unknown in the East Midlands	104		104	753	857
	Total	5,244		5,244	13,693	18,937
West Midlands	Herefordshire	225	13	238	338	576
	Remainder of West Midlands	1,117		1,117	2,059	3,176
	Shropshire and Telford and Wrekin	523		523	1,423	1,947
	Staffordshire	2,630		2,630	1,385	4,015
	Warwickshire	355		355	1,532	1,887
	Worcestershire	238	1	239	385	624
	Unknown in the West Midlands Region	2,699		2,699	557	3,256
	Total	7,786	14	7,800	7,680	15,480
North West	Cheshire East	154		154	358	512
	Cheshire West and Chester	459	4	464	1,381	1,845
	Cumberland and part of the Lake District National Park	360		360	1,330	1,690
	Greater Manchester, Merseyside, Halton & Warrington	218	40	257	2,945	3,202
	Lancashire, Blackpool and Blackburn with Darwen	116	14	130	3,361	3,491
	Westmorland & Furness and part of the Lake District National Park	159		159	271	431
	Unknown in the North West	407	228	635	1,865	2,501
	Total	1,874	286	2,160	11,511	13,671
Yorkshire & the Humber	Humber (East Riding, North Lincolnshire and North East Lincolnshire)	226	139	366	586	951
	North Yorks, Yorkshire Dales and North York Moors National Parks	1,059	0	1,059	2,947	4,007
	South Yorkshire	410	2	412	2,434	2,846
	West Yorkshire	494	73	568	2,506	3,074
	Unknown in Yorks & Humber	113	199	312	2,598	2,909
	Total	2,303	414	2,717	11,071	13,788
North East	Durham	305	112	418	2,188	2,606
	Northumberland and the National Park	122	23	146	1,560	1,706
	Tees Valley	102	277	379	662	1,042
	Tyne and Wear	395	325	720	1,096	1,817
	Unknown but somewhere in the North East	10	140	150	246	396
	Total	935	878	1,813	5,753	7,566
England		35,462	13,362	48,824	88,246	137,070

Table 11 Consumption of primary aggregates by sub-region in 2023

		Thousand tonnes				
Region	Sub-region	Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregates
South Wales	South East Wales	3	279	282	3,841	4,123
	Remainder of South Wales	104	210	315	1,986	2,301
	Unknown but somewhere in South Wales	37	215	252	515	767
	Total	145	704	849	6,342	7,191
North Wales	North East Wales	202		202	1,513	1,716
	North West Wales	1		1	812	812
	Unknown but somewhere in North Wales	48	8	55	1,703	1,758
	Total	251	8	259	4,028	4,287
Wales		396	712	1,107	10,370	11,478
England and Wales		35,858	14,073	49,931	98,616	148,548
Scotland	Argyll & Bute	c		c	c	211
	Ayrshire Authorities	264		264	786	1,051
	Comhairle nan Eilean Siar	2		2	158	160
	Dumfries & Galloway	298		298	464	761
	East Central Scotland	779		779	2,336	3,115
	Forth Valley	c		c	c	729
	Highland	208		208	535	743
	North East Scotland	459		459	786	1,245
	Orkney & Shetland Islands	0		0	186	187
	Tay Area	303		303	1,240	1,543
	West Central Scotland	1,381		1,381	4,326	5,707
Scotland		4,055		4,055	11,397	15,453
Great Britain		39,913	14,073	53,987	110,014	164,000

1. These figures are the same as the consumption totals by region in Tables 2b and 5. Very small amounts for non-aggregate use are included for a few MPAs.

2. The sub-regions used for the survey are shown on Map 2 (Scotland) and Map 5 (England and Wales).

a. Kent also includes land-won sand and gravel for Medway.

Table 12 Permitted reserves of land-won primary aggregates in active and inactive sites at 31 December 2023

Region	Sand and Gravel					Crushed Rock					Thousand tonnes
	Active sites	Inactive: worked in past	Inactive: yet to be worked	Total	(Dormant sites)	Active sites	Inactive: worked in past	Inactive: yet to be worked	Total	(Dormant sites)	Grand total (Excluding dormant)
South West	16,119	1,616	3,079	20,814		628,807	100,586		729,393	161,959	750,207
South East	36,589	7,112	7,067	50,768	50	20,335	680	245	21,259		72,027
London	1,565		3,700	5,265							5,265
East of England	103,566	17,297	615	121,478		2,256	1,622		3,878		125,355
East Midlands	42,920	8,110	10,400	61,430	2,100	886,412	131,231	36,850	1,054,493	8,203	1,115,923
West Midlands	71,407	19,626		91,033	1,009	150,136	45,643		195,779	4,600	286,812
North West	8,662	540	4,100	13,302		192,784	46,204	2,090	241,078		254,381
Yorkshire & the Humber	33,554	872	1,600	36,026		243,402	21,399		264,801	3,722	300,826
North East	8,787	2,310	12,500	23,597		133,252	61,625	750	195,627	650	219,224
England	323,169	57,484	43,061	423,713	3,159	2,257,384	408,989	39,935	2,706,308	179,134	3,130,021
%	81%	76%	97%	82%		58%	64%	68%	59%		61%
South Wales	1,536	319		1,855	294	272,586	162,974	6,300	441,860	30,872	443,716
North Wales	10,841	1,213		12,054		171,233	4,088		175,321	10,000	187,375
Wales	12,377	1,532		13,909	294	443,819	167,062	6,300	617,182	40,872	631,091
%	3%	2%		3%		11%	26%	11%	13%		12%
England and Wales	335,546	59,015	43,061	437,622	3,453	2,701,203	576,052	46,235	3,323,490	220,006	3,761,112
Argyll & Bute	c			c		c			c		19,830
Ayrshire Authorities	3,563			3,563		83,778			83,778		87,341
Comhairle nan Eilean Siar	49			49		4,120	984		5,104		5,153
Dumfries & Galloway	8,102	1,690		9,792		17,225	6,893		24,118		33,910
East Central Scotland	27,853	7,051		34,904		48,267	26,631	2,750	77,648		112,551
Forth Valley	c			c		c			c		21,409
Highland	1,404	1,280	1,200	3,884		722,144	968		723,112		726,996
North East Scotland	4,195	121		4,316		129,050	8,501		137,551		141,867
Orkney & Shetland Islands	4			4		5,217			5,217		5,222
Tay Area	6,068			6,068		19,795	2,679		22,474		28,542
West Central Scotland	9,958	6,065		16,023		129,396	14,741	2,060	146,197		162,220
Scotland	62,577	16,207	1,200	79,984		1,186,351	66,397	12,310	1,265,058		1,345,042
%	16%	22%	3%	15%		31%	10%	21%	28%		26%
Great Britain	398,122	75,222	44,261	517,606	3,453	3,887,554	642,449	58,545	4,588,548	220,006	5,106,154

1. For aggregate use only.

2. Reserves of crushed rock for aggregate at active and inactive sites with a Polished Stone Value (PSV), when indicated, of 60 to 65 were 356 Mt in England, 274 Mt in Wales and 136 Mt in Scotland. Reserves with a PSV of +65 were 9.5 Mt in England, 11 Mt in Wales and 5 Mt in Scotland.

3. Dormant sites are not included in 'Inactive sites worked in the past' or in the totals.

4. Data presented on dormant sites cannot be considered complete as some regions have dormant sites where the volume of aggregates contained is not known and, therefore, could not be supplied.

5. 95.6% of total reserves (excluding dormant sites) is based on figures supplied by site operators. The remainder is based on estimates made by Mineral Planning Authorities.

6. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

Table 13 Permitted reserves of land-won primary aggregates in active and inactive sites by environmental designation at 31 December 2023

Thousand tonnes														
	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Wales Total	England & Wales Total
Sand and gravel														
All sites	20,814	50,768	5,265	121,478	61,430	91,033	13,302	36,026	23,597	423,713	1,855	12,054	13,909	437,622
National Park		254		1,550						1,805	930		930	2,735
NL / NSA	259	1,513		1,721		18,571				22,063				22,063
SSSI	4,963	5,388		8,610	510	8,145			1,592	29,207	99		99	29,307
NNR									648	648				648
SPA and SAC	3,409	1,221		2,300		8,145			648	15,723				15,723
Green Belt	4,660	19,234	3,700	709	2,296	35,092	2,876	56	8,110	76,732				76,732
Crushed Rock														
All sites	729,393	21,259		3,878	1,054,493	195,779	241,078	264,801	195,627	2,706,308	441,860	175,321	617,182	3,323,490
National Park	c	c			117,023		32,855	79,491	c	282,502	20,237		20,237	302,739
NL / NSA	207,462	1,222		596	713	9,312	12,896	11,696	18,306	262,202		4,011	4,011	266,213
SSSI	195,842	600		760	156,592	66,874	51,834	83,483	112,968	668,953	94,173	7,230	101,403	770,356
NNR									15,351	15,351				15,351
SPA and SAC	7,070				3,474			17,362	15,351	43,258				43,258
Green Belt	32,633	13					14,213	103,288	652	150,799	1,860		1,860	152,659
Thousand tonnes														
	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	Scotland Total	Great Britain	
Sand and gravel														
All sites	c	3,563	49	9,792	34,904	c	3,884	4,316	4	6,068	16,023	79,984		517,606
National Park												2,189		4,924
NL / NSA							60					60		22,123
SSSI							800					800		30,107
NNR														648
SPA and SAC														15,723
Green Belt														76,732
Crushed Rock														
All sites	c	83,778	5,104	24,118	77,648	c	723,112	137,551	5,217	22,474	146,197	1,265,058		4,588,548
National Park												251		302,990
NL / NSA			1,544		2,000		717					4,261		270,474
SSSI					2,223			6,123				9,807		780,163
NNR														15,351
SPA and SAC														43,258
Green Belt		7,400									2,060	9,460		162,119

1. For aggregate use only.

2. Dormant sites are not included.

3. Designations are not mutually exclusive, e.g. SSSIs may overlap with others, such as National Parks and National Landscapes. Special Areas of Conservation (SAC) and Special Protection Areas (SPA) are also SSSIs. They are sub-sets of SSSIs. Some designations, notably SSSIs, may only coincide with a small part of an extant planning permission. However, the total sales for the mineral working are recorded even though there may be no extraction within the designation. The degree of overlap, and the actual or potential impacts of mineral extraction on the conservation interest of the site will vary and are not reflected in the figures.

4. Green Belt is a planning policy designation.

5. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

Table 14 Total reserves of primary aggregates granted planning permission between 2020 and 2023

Region	Thousand tonnes					
	Sand and gravel		Crushed rock		Grand total	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West	11,412	5	95,362	6	106,774	11
South East	9,801	12	2,014	5	11,815	17
London	900	2			900	2
East of England	36,439	24			36,439	24
East Midlands	11,813	17	6,615	4	18,428	21
West Midlands	26,286	19			26,286	19
North West	3,755	3	2,390	2	6,145	5
Yorkshire & the Humber	5,073	6	49,570	9	54,643	15
North East	5,800	1	5,200	2	11,000	3
England	111,280	89	161,151	28	272,431	117
South Wales			7,499	4	7,499	4
North Wales	500	1	19,866	1	20,366	2
Wales	500	1	27,365	5	27,865	6
England and Wales	111,780	90	188,516	33	300,296	123
Argyll & Bute						
Ayrshire Authorities			160	1	160	1
Comhairle nan Eilean Siar			3100	2	3,100	2
Dumfries & Galloway						
East Central Scotland	1400	1	2500	2	3,900	3
Forth Valley						
Highland	1204.469	2	214.15	3	1,419	5
North East Scotland	360	2	2840	2	3,200	4
Orkney & Shetland Islands			3000	1	3,000	1
Tay Area	370	1	375	1	745	2
West Central Scotland	3000	1	2000	1	5,000	2
Scotland	6,334	7	14,189	13	20,524	20
Great Britain	118,115	97	202,705	46	320,819	143

1. Crushed rock comprises limestone (including dolomite), igneous rock, sandstone, chalk and ironstone. Sand and gravel also includes sites for sand only.

2. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

3. 95 (98%) of sand and gravel planning permissions (equating to 115.2 Mt of reserves) and 45 (98%) of crushed rock planning permissions (199.7 Mt) were granted by MPAs with the remainder being granted following an appeal decision.

4. In addition, in North Wales, one permissions containing a total of 1.9 Mt of slate and in South Wales, one permission containing 0.03 Mt of clay / shale for aggregates use were granted.

Table 15 Total quantity of primary aggregates refused planning permission between 2020 and 2023

Region	Thousand tonnes					
	Sand and gravel		Crushed rock		Grand total	
	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West	1,655	2			1,655	2
South East	780	2			780	2
London						
East of England	8,400	2			8,400	2
East Midlands	1,732	2			1,732	2
West Midlands	3,936	2			3,936	2
North West						
Yorkshire & the Humber						
North East	175	1	125	1	300	2
England	16,678	11	125	1	16,803	12
South Wales			70	1	70	1
North Wales						
Wales			70	1	70	1
England and Wales	16,678	11	195	2	16,873	13
Argyll & Bute						
Ayrshire Authorities						
Comhairle nan Eilean Siar						
Dumfries & Galloway						
East Central Scotland						
Forth Valley						
Highland						
North East Scotland						
Orkney & Shetland Islands						
Tay Area						
West Central Scotland						
Scotland						
Great Britain	16,678	11	195	2	16,873	13

1. Crushed rock comprises limestone (including dolomite), igneous rock, sandstone, chalk and ironstone. Sand and gravel also includes sites for sand only.

2. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

3. 10 (91%) of sand and gravel planning permissions (equating to 13.7 Mt of reserves) were refused by MPAs with the remainder being refused following an appeal decision. All crushed rock permissions were granted by MPAs.

Table 16 Total quantity of primary aggregates awaiting planning decision at 31 December 2023

Region	Thousand tonnes					
	Sand and gravel		Crushed rock		Grand total	
	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West	16,336	5	29,820	2	46,156	7
South East	19,113	14	7,641	5	26,754	19
London	100	1			100	1
East of England	12,687	13			12,687	13
East Midlands	4,550	3	28,103	4	32,653	7
West Midlands	10,460	8	96,300	2	106,760	10
North West	11,490	5	5,000	1	16,490	6
Yorkshire & the Humber	84	1	5,780	4	5,864	5
North East			21,451	5	21,451	5
England	74,820	50	194,095	23	268,915	73
South Wales			17,215	4	17,215	4
North Wales			6,760	2	6,760	2
Wales			23,975	6	23,975	6
England and Wales	74,820	50	218,070	29	292,890	79
Argyll & Bute						
Ayrshire Authorities						
Comhairle nan Eilean Siar			1835	3	1,835	3
Dumfries & Galloway						
East Central Scotland			2600	2	2,600	2
Forth Valley						
Highland						
North East Scotland						
Orkney & Shetland Islands						
Tay Area	1100	1	480	1	1,580	2
West Central Scotland	1500	1	4000	1	5,500	2
Scotland	2,600	2	8,915	7	11,515	9
Great Britain	77,420	52	226,985	36	304,405	88

1. As at 31 December 2023.

2. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

3. Includes planning permissions awaiting a Section 106 Agreement (England and Wales) or Section 75 Agreement (Scotland).

Table 17 Total quantity of primary aggregates withdrawn from the planning application process between 2020 and 2023

Region	Thousand tonnes					
	Sand and gravel		Crushed rock		Grand total	
	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West	880	2			880	2
South East	772	3	2,234	1	3,006	4
London						
East of England	1,465	2			1,465	2
East Midlands	3,400	1			3,400	1
West Midlands						
North West						
Yorkshire & the Humber						
North East	6,700	1	1,375	1	8,075	2
England	13,217	9	3,609	2	16,826	11
South Wales						
North Wales						
Wales						
England and Wales	13,217	9	3,609	2	16,826	11
Argyll & Bute						
Ayrshire Authorities						
Comhairle nan Eilean Siar						
Dumfries & Galloway						
East Central Scotland						
Forth Valley						
Highland						
North East Scotland						
Orkney & Shetland Islands						
Tay Area						
West Central Scotland						
Scotland						
Great Britain	13,217	9	3,609	2	16,826	11

1. Only includes those planning applications withdrawn and not subsequently re-submitted.

2. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table 18 Total reserves allocated to non-aggregate uses granted planning permission between 2020 and 2023

Region	Thousand tonnes					
	Sand and gravel		Crushed rock		Grand total	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West			508	1	508	1
South East	700	1	150	2	850	3
London						
East of England						
East Midlands			600	2	600	2
West Midlands						
North West	5,270	2			5,270	2
Yorkshire & the Humber	3,000	1	168	2	3,168	3
North East						
England	8,970	4	1,426	7	10,396	11
South Wales						
North Wales						
Wales						
England and Wales	8,970	4	1,426	7	10,396	11
Argyll & Bute						
Ayrshire Authorities						
Comhairle nan Eilean Siar						
Dumfries & Galloway						
East Central Scotland						
Forth Valley						
Highland						
North East Scotland						
Orkney & Shetland Islands						
Tay Area						
West Central Scotland						
Scotland						
Great Britain	8,970	4	1,426	7	10,396	11

1. Crushed rock comprises limestone (including dolomite), igneous rock, sandstone, chalk and ironstone. Sand and gravel also includes sites for sand only.

2. In addition, one permission in North Wales containing 0.25 Mt of slate allocated to non-aggregate use was granted.

3. Tonnage figures are mutually exclusive from those reported in Table 14.

4. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table 19 Total quantity allocated to non-aggregate uses refused planning permission between 2020 and 2023

Region	Thousand tonnes					
	Sand and gravel		Crushed rock		Grand total	
	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West						
South East						
London						
East of England						
East Midlands						
West Midlands						
North West						
Yorkshire & the Humber						
North East						
England						
South Wales						
North Wales						
Wales						
England and Wales						
Argyll & Bute						
Ayrshire Authorities						
Comhairle nan Eilean Siar						
Dumfries & Galloway						
East Central Scotland						
Forth Valley						
Highland						
North East Scotland						
Orkney & Shetland Islands						
Tay Area						
West Central Scotland						
Scotland						
Great Britain						

1. Crushed rock comprises limestone (including dolomite), igneous rock, sandstone, chalk and ironstone. Sand and gravel also includes sites for sand only.

2. Tonnage figures are mutually exclusive from those reported in Table 15.

3. This table is intentionally blank due to non-occurrence of the data combination.

4. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table 20 Total quantity allocated to non-aggregate uses awaiting planning decision at 31 December 2023

Region	Thousand tonnes					
	Sand and gravel		Crushed rock		Grand total	
	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West						
South East	12	1			12	1
London						
East of England						
East Midlands			40	1	40	1
West Midlands						
North West	3,457	2			3,457	2
Yorkshire & the Humber			350	1	350	1
North East			2,500	1	2,500	1
England	3,469	3	2,890	3	6,359	6
South Wales						
North Wales						
Wales						
England and Wales	3,469	3	2,890	3	6,359	6
Argyll & Bute						
Ayrshire Authorities						
Comhairle nan Eilean Siar						
Dumfries & Galloway						
East Central Scotland						
Forth Valley						
Highland						
North East Scotland						
Orkney & Shetland Islands						
Tay Area						
West Central Scotland						
Scotland						
Great Britain	3,469	3	2,890	3	6,359	6

1. As at 31 December 2023.

2. Includes planning permissions awaiting a Section 106 Agreement (England and Wales) or Section 75 Agreement (Scotland).

3. Tonnage figures are mutually exclusive from those reported in Table 16.

4. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table 21 Total quantity allocated to non-aggregate uses withdrawn from the planning application process between 2020 and 2023

Region	Thousand tonnes					
	Sand and gravel		Crushed rock		Grand total	
	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West						
South East	546	1			546	1
London						
East of England						
East Midlands						
West Midlands						
North West						
Yorkshire & the Humber						
North East						
England	546	1			546	1
South Wales						
North Wales						
Wales						
England and Wales	546	1			546	1
Argyll & Bute						
Ayrshire Authorities						
Comhairle nan Eilean Siar						
Dumfries & Galloway						
East Central Scotland						
Forth Valley						
Highland						
North East Scotland						
Orkney & Shetland Islands						
Tay Area						
West Central Scotland						
Scotland						
Great Britain	546	1			546	1

1. Only includes those planning applications withdrawn and not subsequently re-submitted.

2. Tonnage figures are mutually exclusive from those reported in Table 17.

3. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table 22 Number of active land-won quarries and marine wharves in 2023

Region	Quarry						Marine wharf	
	Limestone	Igneous rock	Sandstone	Chalk	Ironstone	Sand & gravel	Sand & gravel	Crushed rock
South West	28	8	6			21	4	1
South East	11			5	1	59	24	10
London						4	6	5
East of England	2		3	2		77	5	6
East Midlands	39	5	8	2		31		
West Midlands	4	3	3			34		
North West	12	3	18			20	3	2
Yorkshire & the Humber	26	1	23	4		27	5	1
North East	11	9				7	5	2
England	133	29	61	13	1	280	52	27
South Wales	16	5	15			5	10	
North Wales	8	6				6	1	
Wales	24	11	15			11	11	
England and Wales	157	40	76	13	1	291	63	27
Argyll & Bute		2				2		
Ayrshire Authorities	1	5				2		
Comhairle nan Eilean Siar		5				3		
Dumfries & Galloway	1	1	4			7		
East Central Scotland		8	5			10		
Forth Valley		1				1		
Highland	1	6	1			4		
North East Scotland	1	7	1			8		
Orkney & Shetland Islands		2	2			3		
Tay Area	2	5				5		
West Central Scotland		10				5		
Scotland	6	52	13			50		
Great Britain	163	92	89	13	1	341	63	27

Appendix A - Sales

Table A1 Sales of land-won sand and gravel by product (end use) in 2023

														Thousand tonnes
Product	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Wales Total	England & Wales Total
Sand for asphalt	9	157		190	125	39	42	28	46	637	1	114	114	751
Sand for use in mortar (building sand)	458	987		964	540	852	285	228	405	4,718	56	29	85	4,803
Sand for concreting	943	1,219		3,316	1,716	2,552	415	856	361	11,379	22	450	472	11,850
Gravel for use in asphalt (on or off site)				183	54	4				241		42	42	283
Gravel for concrete	713	1,113	226	2,027	703	1,854	18	162	31	6,847	25	88	113	6,960
Other screened and graded gravels for other aggregate purposes	24	501		989	688	912	23	586	68	3,790	15		15	3,805
Sand and gravel for constructional fill	106	926	288	2,475	1,143	1,759	656	773	23	8,150	8	121	129	8,279
Total for Aggregate use	2,254	4,904	514	10,145	4,968	7,973	1,440	2,632	933	35,763	126	844	970	36,733
Undifferentiated non-aggregate use	108	776		81	340	2	1,406	236		2,949	89	49	138	3,087
Total for Non-aggregate use	108	776		81	340	2	1,406	236		2,949	89	49	138	3,087
Total for all uses	2,362	5,680	514	10,226	5,308	7,975	2,846	2,869	933	38,712	215	893	1,108	39,820

Thousand tonnes													
Product	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	Scotland Total	Great Britain
Sand for asphalt	c	100		8	151	c		1		10	126	427	1,178
Sand for use in mortar (building sand)	c	79		2	108	c		11		21	144	401	5,204
Sand for concreting	c	68	1	4	396	c	31	130	0	70	319	1,189	13,039
Gravel for use in asphalt (on or off site)		1		60			1	0				62	345
Gravel for concrete	c	4		2	152	c	17	73		49	105	470	7,430
Other screened and graded gravels for other aggregate purposes		23		0	89		19	50	0	150	112	463	4,269
Sand and gravel for constructional fill		11	1	261	314		145	60		205	74	1,076	9,356
Total for Aggregate use	57	286	2	337	1,210	274	213	324	0	504	880	4,089	40,822
Undifferentiated non-aggregate use		19			135		113		5			272	3,359
Total for Non-aggregate use		19			135		113		5			272	3,359
Total for all uses	57	305	2	337	1,346	274	326	324	5	504	880	4,361	44,180

1. If only a total sales figure was provided, all sales for the site were assigned to 'other screened and graded aggregates'.

2. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

Table A2 Sales of marine-dredged sand and gravel by product (end use) in 2023

Thousand tonnes														
Product	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Wales Total	England & Wales Total
Sand for asphalt	8	207	1,030	8			58			1,311	0		0	1,311
Sand for use in mortar (building sand)	286	32	30	1					10	359	503		503	862
Sand for concreting	206	2,378	1,889	236				245	530	5,483	197	8	205	5,688
Gravel for use in asphalt (on or off site)														
Gravel for concrete	3	1,979	385	288					171	2,825				2,825
Other screened and graded gravels for other aggregate purposes	7	813	296	14			228		6	1,366	14		14	1,379
Sand and gravel for constructional fill	2	1,608	263	3				112	218	2,205	35		35	2,240
Total for Aggregate use	512	7,016	3,893	549			286	357	935	13,549	749	8	757	14,306
Undifferentiated non-aggregate use	2									2				2
Total for Non-aggregate use	2									2				2
Total for all uses	513	7,016	3,893	549			286	357	935	13,550	749	8	757	14,307

Thousand tonnes													
Product	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	Scotland Total	Great Britain
Sand for asphalt													1,311
Sand for use in mortar (building sand)													862
Sand for concreting													5,688
Gravel for use in asphalt (on or off site)													
Gravel for concrete													2,825
Other screened and graded gravels for other aggregate purposes													1,379
Sand and gravel for constructional fill													2,240
Total for Aggregate use													14,306
Undifferentiated non-aggregate use													2
Total for Non-aggregate use													2
Total for all uses													14,307

1. If only a total sales figure was provided, all sales for the site were assigned to 'other screened and graded aggregates'.

2. No marine-dredged sand and gravel is landed in Scotland.

Table A3 Sales of crushed rock by product (end use) in 2023

Product	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Thousand tonnes	
													Wales Total	England & Wales Total
Crushed rock, coated for asphalt on site (exc. weight of binder)	966				985	327	192	46	305	2,821	605	418	1,022	3,843
Crushed rock, coated for asphalt off site	1,122			9	1,930	652	489	1,413	307	5,922	1,267	156	1,423	7,344
Crushed rock for uncoated roadstone & foundation work	4,470	115			7,142	1,011	903	2,445	1,157	17,242	731	972	1,703	18,945
Rock chippings for surface dressing	46				381	48	7	6	223	710	124	417	541	1,251
Railway ballast	0				825	202	178			1,206	1	443	444	1,650
Concrete aggregate	3,730	151			3,894	677	667	1,823	609	11,552	1,249	1,000	2,249	13,802
Other screened and graded aggregates	9,294	1,024		115	7,337	231	1,470	2,595	1,095	23,160	2,577	989	3,566	26,726
Armourstone and gabion stone	56	20			81	8	22	53	22	262	40	45	84	347
Other construction uses, including fill	3,988	1,064			4,347	867	1,871	1,807	1,666	15,611	1,980	600	2,581	18,191
Undifferentiated aggregate use														
Total for Aggregate use	23,672	2,375		123	26,921	4,022	5,800	10,189	5,383	78,485	8,575	5,039	13,613	92,099
Building stone (exc. reconstituted stone)	732	3		0	83		38	69		925	12	2	14	940
Cement manufacture					4,246	930				5,176	233		233	5,409
Agricultural use on the land and horticulture	187	33		52	327	22	59	198	243	1,121	59	11	70	1,191
Flux in iron and steel manufacture	37				1,557		84	234	10	1,922	386		386	2,308
For all other industrial uses	41				2,849					2,890				2,890
Undifferentiated non-aggregate use														
Total for Non-aggregate use	997	36		52	9,063	952	181	501	253	12,035	690	13	703	12,739
Total for all uses	24,669	2,411		176	35,984	4,975	5,981	10,689	5,636	90,521	9,265	5,052	14,317	104,837

Table A3 Sales of crushed rock by product (end use) in 2023

Product	Thousand tonnes												Great Britain
	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	Scotland Total	
Crushed rock, coated for asphalt on site (exc. weight of binder)	c	231	90	35	408	c	142	196	24	94	176	1,556	5,400
Crushed rock, coated for asphalt off site		354		109	453		118	80		91	416	1,872	9,216
Crushed rock for uncoated roadstone & foundation work		228		121	276		1,221	60	62	22	647	2,843	21,788
Rock chippings for surface dressing					56		3	26	5		24	113	1,363
Railway ballast											185	185	1,835
Concrete aggregate	c	235	30	133	417	c	93	142	1	12	301	1,396	15,197
Other screened and graded aggregates		20		58	488		4,244	39	8	191	698	5,777	32,503
Armourstone and gabion stone		1		6	10		123	1	6	32	4	187	534
Other construction uses, including fill	c	837	38	193	325	c	136	264	80	250	1,471	3,695	21,887
Total for Aggregate use	65	1,906	158	655	2,432	719	6,080	808	186	692	3,924	17,625	109,724
Building stone (exc. reconstituted stone)													940
Cement manufacture													5,409
Agricultural use on the land and horticulture				47			25	45		26		143	1,335
Flux in iron and steel manufacture													2,308
For all other industrial uses													2,890
Total for Non-aggregate use				47			25	45		26		143	12,882
Total for all uses	65	1,906	158	703	2,432	719	6,105	853	186	718	3,924	17,768	122,606

1. If only a total sales figure was provided, all sales for the site were assigned to 'other screened and graded aggregates'.

2. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

Table A4 Sales of crushed rock for aggregate use by mineral in 2023

Region	Thousand tonnes					
	Limestone / dolomite	Igneous rock	Sandstone	Chalk	Ironstone	Total
South West	21,057	2,395	220			23,672
South East	2,253			32	90	2,375
London						
East of England	9		115			123
East Midlands	18,320	8,345	25	232		26,921
West Midlands	1,442	1,160	1,420			4,022
North West	3,510	916	1,373			5,800
Yorkshire & the Humber	8,388	311	1,350	140		10,189
North East	3,770	1,613				5,383
England	58,749	14,741	4,502	404	90	78,485
South Wales	4,715	1,280	2,580			8,575
North Wales	3,747	1,292				5,039
Wales	8,461	2,573	2,580			13,613
England and Wales	67,210	17,313	7,082	404	90	92,099
Argyll & Bute		c				c
Ayrshire Authorities	23	1,883				1,906
Comhairle nan Eilean Siar		158				158
Dumfries & Galloway	156	32	468			655
East Central Scotland		1,890	541			2,432
Forth Valley		c				c
Highland	6	6,070	3			6,080
North East Scotland	45	739	24			808
Orkney & Shetland Islands		82	105			186
Tay Area	132	560				692
West Central Scotland		3,924				3,924
Scotland	363	16,121	1,141			17,625
Great Britain	67,573	33,434	8,223	404	90	109,724

1. For aggregate use only.

Table A5 Sales of crushed rock for non-aggregate use by mineral in 2023

Thousand tonnes						
Region	Limestone / dolomite	Igneous rock	Sandstone	Chalk	Ironstone	Total
South West	974	23	0			997
South East	22			14		36
London						
East of England	0			52		52
East Midlands	9,003	0	35	24		9,063
West Midlands	952					952
North West	145		36			181
Yorkshire & the Humber	133		66	301		501
North East	253	0				253
England	11,482	23	138	392		12,035
South Wales	682		8			690
North Wales	11	2				13
Wales	693	2	8			703
England and Wales	12,176	25	146	392		12,739
Argyll & Bute						
Ayrshire Authorities						
Comhairle nan Eilean Siar						
Dumfries & Galloway	47					47
East Central Scotland						
Forth Valley						
Highland	25					25
North East Scotland	45					45
Orkney & Shetland Islands						
Tay Area	18	8				26
West Central Scotland						
Scotland	135	8				143
Great Britain	12,311	33	146	392		12,882

Appendix B – Permitted reserves

Table B1 Permitted reserves of land-won primary aggregates at 31 December 2023 by mineral

Thousand tonnes														
	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Wales Total	England & Wales Total
Sand and gravel														
Sand for asphalt		732		279	3,629	32				4,672	75		75	4,747
Sand for use in mortar (building sand)	1,458	8,546		5,630	2,096	3,900		3,251	4,968	29,849	75		75	29,924
Concreting sand	6,987	7,330		13,548	5,194	1,592	130	1,366	338	36,485	900		900	37,386
Undifferentiated sand	4,909	11,736		6,774	15,829	5,554	10,621	799	95	56,318	1,440	100	1,540	57,858
Total sand ^(a)	13,355	28,344		26,231	26,748	11,078	10,751	5,416	5,401	127,324	2,490	100	2,590	129,914
Total gravel	3,332	6,651		13,517	358	1,299	32	809	189	26,186	151		151	26,337
Undifferentiated sand & gravel ^(b)	4,260	19,583	5,265	81,943	41,213	79,456	15,176	30,426	18,007	295,329	320	11,954	12,273	307,602
Total sand & gravel - for aggregate	20,814	50,768	5,265	121,478	61,430	91,033	13,302	36,026	23,597	423,713	1,855	12,054	13,909	437,622
Sand & gravel - for non-aggregate use	133	3,810		213	6,888	800	12,657	625		25,126	1,105		1,105	26,231
Crushed rock														
Limestone/dolomite - for aggregate	518,142	18,286		2,672	782,711	97,922	123,449	226,336	123,126	1,892,644	208,250	68,257	276,507	2,169,151
Limestone/dolomite - for non-aggregate use	2,847	150			275,894	1,750	200	993	25,731	307,564	1,599		1,599	309,163
Igneous rock - for aggregate	203,632				267,757	31,959	32,860	460	72,501	609,168	38,056	107,064	145,120	754,288
Igneous rock - for non-aggregate use	6,853									6,853				6,853
Sandstone - for aggregate	7,618			1,206	3,128	65,898	84,770	37,686		200,306	195,555		195,555	395,861
Sandstone - for non-aggregate use	362				1,785		633	5,464		8,243	1,308		1,308	9,551
Chalk - for aggregate		2,553			852			320		3,724				3,724
Chalk - for non-aggregate use		222		970	103			37,657		38,951				38,951
Ironstone - for aggregate		420			45					465				465
Ironstone - for non-aggregate use														
Total crushed rock – for aggregate	729,393	21,259		3,878	1,054,493	195,779	241,078	264,801	195,627	2,706,308	441,860	175,321	617,182	3,323,490
- for non-aggregate use	10,062	371		970	277,782	1,750	833	44,113	25,731	361,612	2,907		2,907	364,519

Table B1 Permitted reserves of land-won primary aggregates at 31 December 2023 by mineral

	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	Scotland Total	Thousand tonnes Great Britain
Sand and gravel													
Sand for asphalt					72			10		5	90	177	4,924
Sand for use in mortar (building sand)		491			24			60		800		1,375	31,299
Concreting sand			20		2,875		20	67		1,680	120	4,782	42,167
Undifferentiated sand		164	0	1	26,060		9,546	67		590		36,427	94,284
Total sand ^(a)		655	20	1	29,031		9,566	204		3,075	210	42,761	172,675
Total gravel			29	0	1,088		40	62	4	2,180	90	3,493	29,830
Undifferentiated sand & gravel ^(b)	c	3,000		9,791	6,970	c	3,767	4,051	0	813	15,723	45,495	353,097
Total sand & gravel - for aggregate	c	3,563	49	9,792	34,904	c	3,884	4,316	4	6,068	16,023	79,983	517,605
Sand & gravel - for non-aggregate use		92			2,185		9,489					11,765	37,997
Crushed rock													
Limestone/dolomite - for aggregate		824		2,000			445	819		878		4,966	2,174,117
Limestone/dolomite - for non-aggregate use							1,781	819		64		2,664	311,827
Igneous rock - for aggregate	c	82,953	5,104	10,555	44,540	c	722,667	134,985	517	21,597	146,197	1,208,974	1,963,262
Igneous rock - for non-aggregate use			10				80	1,626		686	320	2,721	9,574
Sandstone - for aggregate				11,563	33,108		0	1,747	4,700			51,118	446,979
Sandstone - for non-aggregate use					200							200	9,751
Chalk - for aggregate													3,724
Chalk - for non-aggregate use													38,951
Ironstone - for aggregate													465
Ironstone - for non-aggregate use													
Total crushed rock – for aggregate	c	83,778	5,104	24,118	77,648	c	723,112	137,551	5,217	22,474	146,197	1,265,058	4,588,548
- for non-aggregate use			10		200		1,861	2,444		750	320	5,585	370,104

1. Figures include reserves in Active and Inactive sites, but not Dormant sites.

2. Total sand (a) also includes undifferentiated sand.

3. Undifferentiated sand and gravel (b) is not included elsewhere.

4. Total reserves for aggregate use exclude material for non-aggregate use.

Table B2 Permitted reserves of land-won primary aggregates at 31 December 2023 by environmental designation – aggregate use

Thousand tonnes														
	South West	South East	London	East of Engand	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Wales Total	England & Wales Total
Sand and gravel														
All sites	20,814	50,768	5,265	121,478	61,430	91,033	13,302	36,026	23,597	423,713	1,855	12,054	13,909	437,622
National Park		254		1,550						1,805	930		930	2,735
NL / NSA	259	1,513		1,721		18,571				22,063				22,063
SSSI	4,963	5,388		8,610	510	8,145			1,592	29,207	99		99	29,307
NNR									648	648				648
SPA and SAC	3,409	1,221		2,300		8,145			648	15,723				15,723
Green Belt	4,660	19,234	3,700	709	2,296	35,092	2,876	56	8,110	76,732				76,732
Crushed Rock														
All sites	729,393	21,259		3,878	1,054,493	195,779	241,078	264,801	195,627	2,706,308	441,860	175,321	617,182	3,323,490
National Park	c	c			117,023		32,855	79,491	c	282,502	20,237		20,237	302,739
NL / NSA	207,462	1,222		596	713	9,312	12,896	11,696	18,306	262,202		4,011	4,011	266,213
SSSI	195,842	600		760	156,592	66,874	51,834	83,483	112,968	668,953	94,173	7,230	101,403	770,356
NNR									15,351	15,351				15,351
SPA and SAC	7,070				3,474			17,362	15,351	43,258				43,258
Green Belt	32,633	13					14,213	103,288	652	150,799	1,860		1,860	152,659

Thousand tonnes														
	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	Scotland Total	Great Britain	
Sand and gravel														
All sites	c	3,563	49	9,792	34,904	c	3,884	4,316	4	6,068	16,023	79,984	517,606	
National Park												2,189	4,924	
NL / NSA							60					60	22,123	
SSSI							800					800	30,107	
NNR													648	
SPA and SAC													15,723	
Green Belt													76,732	
Crushed Rock														
All sites	c	83,778	5,104	24,118	77,648	c	723,112	137,551	5,217	22,474	146,197	1,265,058	4,588,548	
National Park												251	302,990	
NL / NSA			1,544		2,000		717					4,261	270,474	
SSSI					2,223			6,123				9,807	780,163	
NNR													15,351	
SPA and SAC													43,258	
Green Belt		7,400									2,060	9,460	162,119	

1. For aggregate use only.

2. Figures include reserves in Active and Inactive sites, but not Dormant sites.

3. Designations are not mutually exclusive, e.g. SSSIs may overlap with others, such as National Parks and National Landscapes. Special Areas of Conservation (SAC) and Special Protection Areas (SPA) are also SSSIs. They are sub-sets of SSSIs. Some designations, notably SSSIs, may only coincide with a small part of an extant planning permission. However, the total sales for the mineral working are recorded even though there may be no extraction within the designation. The degree of overlap, and the actual or potential impacts of mineral extraction on the conservation interest of the site will vary and are not reflected in the figures.

4. Green Belt is a planning policy designation.

5. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

Table B3 Permitted reserves of land-won primary aggregates at 31 December 2023 by environmental designation – non-aggregate use

														Thousand tonnes
	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Wales Total	England & Wales Total
Sand and gravel														
All sites	133	3,810		213	6,888	800	12,657	625		25,126	1,105		1,105	26,231
National Park														
NL / NSA		3,302								3,302				3,302
SSSI														
NNR														
SPA and SAC														
Green Belt	80				6,888	800				7,768				7,768
Crushed rock														
All sites	10,062	371		970	277,782	1,750	833	44,113	25,731	361,612	2,907		2,907	364,519
National Park					71,617					71,765	125		125	71,890
NL / NSA	6,002	45			57					6,104				6,104
SSSI	4,819			500	9,851		170	10,095	22,756	48,191	260		260	48,451
NNR									18,928	18,928				18,928
SPA and SAC									18,928	18,928				18,928
Green Belt							3,750			3,750				3,750

													Thousand tonnes
	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	Scotland Total	Great Britain
Sand and gravel													
All sites		92			2,185		9,489					11,765	37,997
National Park													
NL / NSA													3,302
SSSI													
NNR													
SPA and SAC													
Green Belt													7,768
Crushed rock													
All sites			10		200		1,861	2,444		750	320	5,585	370,104
National Park													71,890
NL / NSA													6,104
SSSI								2,084				2,084	50,535
NNR													18,928
SPA and SAC													18,928
Green Belt													3,750

1. Figures include reserves in Active and Inactive sites, but not Dormant sites.

2. Designations are not mutually exclusive, e.g. SSSIs may overlap with others, such as National Parks and National Landscapes. Special Areas of Conservation (SAC) and Special Protection Areas (SPA) are also SSSIs. They are sub-sets of SSSIs. Some designations, notably SSSIs, may only coincide with a small part of an extant planning permission. However, the total sales for the mineral working are recorded even though there may be no extraction within the designation. The degree of overlap, and the actual or potential impacts of mineral extraction on the conservation interest of the site will vary and are not reflected in the figures.

3. Green Belt is a planning policy designation.

4. To maintain confidentiality some regional figures have been left blank. The totals remain correct.

Table B4 Permitted reserves of primary aggregates at 31 December 2023 in dormant sites by environmental designation - aggregate use

Thousand tonnes														
	South West	South East	London	East of England	East Midlands	West Midlands	North West	Yorkshire & Humber	North East	England Total	South Wales	North Wales	Wales Total	England & Wales Total
Sand and gravel														
All sites		50			2,100	1,009				3,159	294		294	3,453
National Park														
NL / NSA		50								50				50
SSSI														
NNR														
SPA and SAC														
Green Belt						1,009				1,009				1,009
Crushed rock														
All sites	161,959				8,203	4,600		3,722	650	179,134	10,000		10,000	189,134
National Park														
NL / NSA						4,600				4,600				4,600
SSSI	30,770							3,722		34,492	10,000		10,000	44,492
NNR														
SPA and SAC														
Green Belt								3,722		3,722				3,722

Thousand tonnes														
	Argyll & Bute	Ayrshire Authorities	Comhairle nan Eilean Siar	Dumfries & Galloway	East Central Scotland	Forth Valley	Highland	North East Scotland	Orkney & Shetland Islands	Tay Area	West Central Scotland	Scotland Total	Great Britain	
Sand and gravel														
All sites													3,453	
National Park														
NL / NSA													50	
SSSI														
NNR														
SPA and SAC														
Green Belt													1,009	
Crushed rock														
All sites													189,134	
National Park														
NL / NSA													4,600	
SSSI													44,492	
NNR														
SPA and SAC														
Green Belt													3,722	

1. For aggregate use only.

2. Designations are not mutually exclusive, e.g. SSSIs may overlap with others, such as National Parks and National Landscapes. Special Areas of Conservation (SAC) and Special Protection Areas (SPA) are also SSSIs. They are sub-sets of SSSIs. Some designations, notably SSSIs, may only coincide with a small part of an extant planning permission. However, the total sales for the mineral working are recorded even though there may be no extraction within the designation. The degree of overlap, and the actual or potential impacts of mineral extraction on the conservation interest of the site will vary and are not reflected in the figures.

3. Green Belt is a planning policy designation.

4. The data presented on dormant sites cannot be considered complete as some regions have dormant sites where the volume of aggregates contained is not known and, therefore, could not be supplied.

Appendix C – Planning permissions

Table C1 Total reserves of sand and gravel granted planning permission between 2020 and 2023 by a) site type and b) sand / sand and gravel

Region	New quarries		Extensions		Borrow pits		Dormant reactivation	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West	10,500	2	605	2			307	1
South East	5,867	3	3,934	9				
London	900	2						
East of England	2,331	3	34,108	21				
East Midlands	3,006	2	8,520	13	287	2		
West Midlands	6,395	5	19,891	14				
North West			3,755	3				
Yorkshire & the Humber	4,100	3	973	3				
North East	5,800	1						
England	38,899	21	71,787	65	287	2	307	1
South Wales								
North Wales			500	1				
Wales			500	1				
England and Wales	38,899	21	72,287	66	287	2	307	1
Argyll & Bute								
Ayrshire Authorities								
Comhairle nan Eilean Siar								
Dumfries & Galloway								
East Central Scotland	1,400	1						
Forth Valley								
Highland	1,200	1			4	1		
North East Scotland	160	1	200	1				
Orkney & Shetland Islands								
Tay Area			370	1				
West Central Scotland			3,000	1				
Scotland	2,760	3	3,570	3	4	1		
Great Britain	41,659	24	75,857	69	291	3	307	1

1. New quarries excludes borrow pits.

2. Extensions include lateral and vertical.

3. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Region	Soft sand (suitable for mortar)		Sharp sand (suitable for concrete)		Sand (unspecified)		Sand and gravel (undifferentiated)	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West	307	1					11,105	4
South East	2,381	5					7,420	7
London							900	2
East of England					188	1	36,252	23
East Midlands	400	1	287	2			11,126	14
West Midlands					245	1	26,041	18
North West	350	1			3,300	1	105	1
Yorkshire & the Humber							5,073	6
North East							5,800	1
England	3,438	8	287	2	3,733	3	103,822	76
South Wales								
North Wales							500	1
Wales							500	1
England and Wales	3,438	8	287	2	3,733	3	104,322	77
Argyll & Bute								
Ayrshire Authorities								
Comhairle nan Eilean Siar								
Dumfries & Galloway								
East Central Scotland							1,400	1
Forth Valley								
Highland							1,204	2
North East Scotland							360	2
Orkney & Shetland Islands								
Tay Area							370	1
West Central Scotland							3,000	1
Scotland							6,334	7
Great Britain	3,438	8	287	2	3,733	3	110,657	84

1. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table C2 Total quantity of sand and gravel refused planning permission between 2020 and 2023 by a) site type and b) sand / sand and gravel

Region	New quarries		Extensions		Borrow pits		Dormant reactivation	
	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West	725	1	930	1				
South East	780	2						
London								
East of England	8,000	1	400	1				
East Midlands			1,732	2				
West Midlands	3,000	1	936	1				
North West								
Yorkshire & the Humber								
North East	175	1						
England	12,680	6	3,998	5				
South Wales								
North Wales								
Wales								
England and Wales	12,680	6	3,998	5				
Argyll & Bute								
Ayrshire Authorities								
Comhairle nan Eilean Siar								
Dumfries & Galloway								
East Central Scotland								
Forth Valley								
Highland								
North East Scotland								
Orkney & Shetland Islands								
Tay Area								
West Central Scotland								
Scotland								
Great Britain	12,680	6	3,998	5				

1. New quarries excludes borrow pits.

2. Extensions include lateral and vertical.

3. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Region	Soft sand (suitable for mortar)		Sharp sand (suitable for concrete)		Sand (unspecified)		Sand and gravel (undifferentiated)	
	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West							1,655	2
South East	230	1					550	1
London								
East of England							8,400	2
East Midlands							1,732	2
West Midlands							3,936	2
North West								
Yorkshire & the Humber								
North East					175	1		
England	230	1			175	1	16,273	9
South Wales								
North Wales								
Wales								
England and Wales	230	1			175	1	16,273	9
Argyll & Bute								
Ayrshire Authorities								
Comhairle nan Eilean Siar								
Dumfries & Galloway								
East Central Scotland								
Forth Valley								
Highland								
North East Scotland								
Orkney & Shetland Islands								
Tay Area								
West Central Scotland								
Scotland								
Great Britain	230	1			175	1	16,273	9

1. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table C3 Total quantity of sand and gravel awaiting planning decision at 31 December 2023 by a) site type and b) sand / sand and gravel

Region	New quarries		Extensions		Borrow pits		Dormant reactivation	
	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West	12,216	2	4,120	3				
South East	16,853	10	1,260	3			1,000	1
London			100	1				
East of England	3,750	2	8,937	11				
East Midlands	3,550	2	1,000	1				
West Midlands	2,000	1	8,460	7				
North West	5,910	4	5,580	1				
Yorkshire & the Humber			84	1				
North East								
England	44,279	21	29,541	28			1,000	1
South Wales								
North Wales								
Wales								
England and Wales	44,279	21	29,541	28			1,000	1
Argyll & Bute								
Ayrshire Authorities								
Comhairle nan Eilean Siar								
Dumfries & Galloway								
East Central Scotland								
Forth Valley								
Highland								
North East Scotland								
Orkney & Shetland Islands								
Tay Area			1,100	1				
West Central Scotland			1,500	1				
Scotland			2,600	2				
Great Britain	44,279	21	32,141	30			1,000	1

1. New quarries excludes borrow pits.

2. Extensions include lateral and vertical.

3. Includes planning permissions awaiting a Section 106 Agreement (England and Wales) or Section 75 Agreement (Scotland).

4. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Region	Soft sand (suitable for mortar)		Sharp sand (suitable for concrete)		Sand (unspecified)		Sand and gravel (undifferentiated)	
	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West					1,120	2	15,216	3
South East	4,400	1					14,713	13
London							100	1
East of England					721	1	11,967	12
East Midlands							4,550	3
West Midlands							10,460	8
North West					7,990	3	3,500	2
Yorkshire & the Humber							84	1
North East								
England	4,400	1			9,831	6	60,590	43
South Wales								
North Wales								
Wales								
England and Wales	4,400	1			9,831	6	60,590	43
Argyll & Bute								
Ayrshire Authorities								
Comhairle nan Eilean Siar								
Dumfries & Galloway								
East Central Scotland								
Forth Valley								
Highland								
North East Scotland								
Orkney & Shetland Islands								
Tay Area							1,100	1
West Central Scotland							1,500	1
Scotland							2,600	2
Great Britain	4,400	1			9,831	6	63,190	45

1. Includes planning permissions awaiting a Section 106 Agreement (England and Wales) or Section 75 Agreement (Scotland).

2. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table C4 Total quantity of sand and gravel withdrawn from the planning application process between 2020 and 2023 by a) site type and b) sand / sand and gravel

Region	New quarries		Extensions		Borrow pits		Dormant reactivation	
	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West			880	2				
South East			772	3				
London								
East of England	545	1	920	1				
East Midlands	3,400	1						
West Midlands								
North West								
Yorkshire & the Humber								
North East			6,700	1				
England	3,945	2	9,272	7				
South Wales								
North Wales								
Wales								
England and Wales	3,945	2	9,272	7				
Argyll & Bute								
Ayrshire Authorities								
Comhairle nan Eilean Siar								
Dumfries & Galloway								
East Central Scotland								
Forth Valley								
Highland								
North East Scotland								
Orkney & Shetland Islands								
Tay Area								
West Central Scotland								
Scotland								
Great Britain	3,945	2	9,272	7				

1. New quarries excludes borrow pits.
2. Extensions include lateral and vertical.
3. Only includes those planning applications withdrawn and not subsequently re-submitted.
4. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Region	Soft sand (suitable for mortar)		Sharp sand (suitable for concrete)		Sand (unspecified)		Sand and gravel (undifferentiated)	
	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West							880	2
South East							772	3
London								
East of England							1,465	2
East Midlands							3,400	1
West Midlands								
North West								
Yorkshire & the Humber								
North East					6,700	1		
England					6,700	1	6,517	8
South Wales								
North Wales								
Wales								
England and Wales					6,700	1	6,517	8
Argyll & Bute								
Ayrshire Authorities								
Comhairle nan Eilean Siar								
Dumfries & Galloway								
East Central Scotland								
Forth Valley								
Highland								
North East Scotland								
Orkney & Shetland Islands								
Tay Area								
West Central Scotland								
Scotland								
Great Britain					6,700	1	6,517	8

1. Only includes those planning applications withdrawn and not subsequently re-submitted.
2. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table C5 Total reserves of crushed rock granted planning permission between 2020 and 2023 by site type

Region	New quarries		Extensions		Borrow pits		Dormant reactivation	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West			95,362	6				
South East	50	1	1,964	4				
London								
East of England								
East Midlands			6,615	4				
West Midlands								
North West			2,390	2				
Yorkshire & the Humber			49,570	9				
North East			5,200	2				
England	50	1	161,101	27				
South Wales			7,470	3	29	1		
North Wales			19,866	1				
Wales			27,336	4	29	1		
England and Wales	50	1	188,437	31	29	1		
Argyll & Bute								
Ayrshire Authorities							160	1
Comhairle nan Eilean Siar			3,100	2				
Dumfries & Galloway								
East Central Scotland			2,500	2				
Forth Valley								
Highland	12	1	150	1	53	1		
North East Scotland			2,840	2				
Orkney & Shetland Islands			3,000	1				
Tay Area			375	1				
West Central Scotland	2,000	1						
Scotland	2,012	2	11,965	9	53	1	160	1
Great Britain	2,062	3	200,402	40	82	2	160	1

1. New quarries excludes borrow pits.

2. Extensions include lateral and vertical.

3. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table C6 Total quantity of crushed rock refused planning permission between 2020 and 2023 by site type

Region	New quarries		Extensions		Borrow pits		Dormant reactivation	
	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West								
South East								
London								
East of England								
East Midlands								
West Midlands								
North West								
Yorkshire & the Humber								
North East	125	1						
England	125	1						
South Wales			70	1				
North Wales								
Wales			70	1				
England and Wales	125	1	70	1				
Argyll & Bute								
Ayrshire Authorities								
Comhairle nan Eilean Siar								
Dumfries & Galloway								
East Central Scotland								
Forth Valley								
Highland								
North East Scotland								
Orkney & Shetland Islands								
Tay Area								
West Central Scotland								
Scotland								
Great Britain	125	1	70	1				

1. New quarries excludes borrow pits.

2. Extensions include lateral and vertical.

3. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table C7 Total quantity of crushed rock awaiting planning decision at 31 December 2023

Region	New quarries		Extensions		Borrow pits		Dormant reactivation	
	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West			29,820	2				
South East			7,270	4	371	1		
London								
East of England								
East Midlands	5,400	2	22,703	2				
West Midlands			96,300	2				
North West							5,000	1
Yorkshire & the Humber			5,780	4				
North East	8,000	2	10,951	2			2,500	1
England	13,400	4	172,824	16	371	1	7,500	2
South Wales			17,215	4				
North Wales			6,760	2				
Wales			23,975	6				
England and Wales	13,400	4	196,799	22	371	1	7,500	2
Argyll & Bute								
Ayrshire Authorities								
Comhairle nan Eilean Siar			1,835	3				
Dumfries & Galloway								
East Central Scotland	600	1	2,000	1				
Forth Valley								
Highland								
North East Scotland								
Orkney & Shetland Islands								
Tay Area			480	1				
West Central Scotland			4,000	1				
Scotland	600	1	8,315	6				
Great Britain	14,000	5	205,114	28	371	1	7,500	2

1. New quarries excludes borrow pits.

2. Extensions include lateral and vertical.

3. Includes planning permissions awaiting a Section 106 Agreement (England and Wales) or Section 75 Agreement (Scotland).

4. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table C8 Total quantity of crushed rock withdrawn from the planning application process between 2020 and 2023 by site type

Region	New quarries		Extensions		Borrow pits		Dormant reactivation	
	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West								
South East					2,234	1		
London								
East of England								
East Midlands								
West Midlands								
North West								
Yorkshire & the Humber								
North East			1,375	1				
England			1,375	1	2,234	1		
South Wales								
North Wales								
Wales								
England and Wales			1,375	1	2,234	1		
Argyll & Bute								
Ayrshire Authorities								
Comhairle nan Eilean Siar								
Dumfries & Galloway								
East Central Scotland								
Forth Valley								
Highland								
North East Scotland								
Orkney & Shetland Islands								
Tay Area								
West Central Scotland								
Scotland								
Great Britain			1,375	1	2,234	1		

1. New quarries excludes borrow pits.

2. Extensions include lateral and vertical.

3. Only includes those planning applications withdrawn and not subsequently re-submitted.

4. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table C9 Total reserves of sand and gravel granted planning permission between 2020 and 2023 by environmental designation

Region	National Park		NL / NSA		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West									305	1
South East	51	1							2,867	2
London									900	2
East of England					2,504	3	3,204	4	3,910	3
East Midlands							7,248	12	287	2
West Midlands							1,900	1	2,149	4
North West									350	1
Yorkshire & the Humber									1,600	1
North East									5,800	1
England	51	1			2,504	3	12,352	17	18,168	17
South Wales										
North Wales										
Wales										
England and Wales	51	1			2,504	3	12,352	17	18,168	17
Argyll & Bute										
Ayrshire Authorities										
Comhairle nan Eilean Siar										
Dumfries & Galloway										
East Central Scotland										
Forth Valley										
Highland									1,200	1
North East Scotland										
Orkney & Shetland Islands										
Tay Area										
West Central Scotland										
Scotland									1,200	1
Great Britain	51	1			2,504	3	12,352	17	19,368	18

1. SPA / SAC are a subset of SSSI.

2. Green Belt is a planning policy designation.

3. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table C10 Total quantity of sand and gravel refused planning permission between 2020 and 2023 by environmental designation

Region	National Park		NL / NSA		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West										
South East										
London										
East of England					400	1	400	1	8,000	1
East Midlands										
West Midlands									3,000	1
North West										
Yorkshire & the Humber										
North East										
England					400	1	400	1	11,000	2
South Wales										
North Wales										
Wales										
England and Wales					400	1	400	1	11,000	2
Argyll & Bute										
Ayrshire Authorities										
Comhairle nan Eilean Siar										
Dumfries & Galloway										
East Central Scotland										
Forth Valley										
Highland										
North East Scotland										
Orkney & Shetland Islands										
Tay Area										
West Central Scotland										
Scotland										
Great Britain					400	1	400	1	11,000	2

1. SPA / SAC are a subset of SSSI.

2. Green Belt is a planning policy designation.

3. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table C11 Total quantity of sand and gravel awaiting planning decision at 31 December 2023 by environmental designation

Region	National Park		NL / NSA		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West										
South East					3,400	1	3,400	1	7,893	6
London									100	1
East of England							550	1	1,500	1
East Midlands							3,400	2		
West Midlands									4,070	4
North West					2,250	1	2,250	1	8,740	3
Yorkshire & the Humber										
North East										
England					5,650	2	9,600	5	22,303	15
South Wales										
North Wales										
Wales										
England and Wales					5,650	2	9,600	5	22,303	15
Argyll & Bute										
Ayrshire Authorities										
Comhairle nan Eilean Siar										
Dumfries & Galloway										
East Central Scotland										
Forth Valley										
Highland										
North East Scotland										
Orkney & Shetland Islands										
Tay Area										
West Central Scotland									1,500	1
Scotland									1,500	1
Great Britain					5,650	2	9,600	5	23,803	16

1. SPA / SAC are a subset of SSSI.

2. Green Belt is a planning policy designation.

3. Includes planning permissions awaiting a Section 106 Agreement (England and Wales) or Section 75 Agreement (Scotland).

4. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table C12 Total quantity of sand and gravel withdrawn from the planning application process between 2020 and 2023 by environmental designation

Region	National Park		NL / NSA		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West										
South East									50	1
London										
East of England										
East Midlands							3,400	1	3,400	1
West Midlands										
North West										
Yorkshire & the Humber										
North East										
England							3,400	1	3,450	2
South Wales										
North Wales										
Wales										
England and Wales							3,400	1	3,450	2
Argyll & Bute										
Ayrshire Authorities										
Comhairle nan Eilean Siar										
Dumfries & Galloway										
East Central Scotland										
Forth Valley										
Highland										
North East Scotland										
Orkney & Shetland Islands										
Tay Area										
West Central Scotland										
Scotland										
Great Britain							3,400	1	3,450	2

1. SPA / SAC are a subset of SSSI.

2. Green Belt is a planning policy designation.

3. Only includes those planning applications withdrawn and not subsequently re-submitted.

4. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table C13 Total reserves of crushed rock granted planning permission between 2020 and 2023 by environmental designation

Region	National Park		NL / NSA		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions	Thousand tonnes	Permissions
South West	72,000	2								
South East	344	1								
London										
East of England										
East Midlands										
West Midlands										
North West										
Yorkshire & the Humber	4,400	1			4,400	1	4,400	1	31,620	5
North East	2,500	1								
England	79,244	5			4,400	1	4,400	1	31,620	5
South Wales					4,000	1	4,000	1	4,000	1
North Wales										
Wales					4,000	1	4,000	1	4,000	1
England and Wales	79,244	5			8,400	2	8,400	2	35,620	6
Argyll & Bute										
Ayrshire Authorities										
Comhairle nan Eilean Siar										
Dumfries & Galloway										
East Central Scotland										
Forth Valley										
Highland										
North East Scotland										
Orkney & Shetland Islands										
Tay Area										
West Central Scotland									2,000	1
Scotland									2,000	1
Great Britain	79,244	5			8,400	2	8,400	2	37,620	7

1. SPA / SAC are a subset of SSSI.

2. Green Belt is a planning policy designation.

3. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table C14 Total quantity of crushed rock refused planning permission between 2020 and 2023 by environmental designation

Region	National Park		NL / NSA		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West										
South East										
London										
East of England										
East Midlands										
West Midlands										
North West										
Yorkshire & the Humber										
North East										
England										
South Wales										
North Wales										
Wales										
England and Wales										
Argyll & Bute										
Ayrshire Authorities										
Comhairle nan Eilean Siar										
Dumfries & Galloway										
East Central Scotland										
Forth Valley										
Highland										
North East Scotland										
Orkney & Shetland Islands										
Tay Area										
West Central Scotland										
Scotland										
Great Britain										

1. SPA / SAC are a subset of SSSI.
2. Green Belt is a planning policy designation.
3. This table is intentionally blank due to non-occurrence of the data combination.
4. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table C15 Total quantity of crushed rock awaiting planning decision at 31 December 2023 by environmental designation by environmental designation

Region	National Park		NL / NSA		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West							18,820	1		
South East							4,100	2	500	1
London										
East of England										
East Midlands							22,703	2		
West Midlands							75,000	1		
North West										
Yorkshire & the Humber							2,430	2	30	1
North East							2,500	1		
England							125,553	9	530	2
South Wales							5,565	1		
North Wales										
Wales							5,565	1		
England and Wales							131,118	10	530	2
Argyll & Bute										
Ayrshire Authorities										
Comhairle nan Eilean Siar										
Dumfries & Galloway										
East Central Scotland										
Forth Valley										
Highland										
North East Scotland										
Orkney & Shetland Islands										
Tay Area										
West Central Scotland										
Scotland										
Great Britain							131,118	10	530	2

1. SPA / SAC are a subset of SSSI.

2. Green Belt is a planning policy designation.

3. Includes planning permissions awaiting a Section 106 Agreement (England and Wales) or Section 75 Agreement (Scotland).

4. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table C16 Total quantity of crushed rock withdrawn from the planning application process between 2020 and 2023 by environmental designation

Region	National Park		NL / NSA		SPA / SAC		SSSI		Green Belt	
	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West										
South East										
London										
East of England										
East Midlands										
West Midlands										
North West										
Yorkshire & the Humber										
North East										
England										
South Wales										
North Wales										
Wales										
England and Wales										
Argyll & Bute										
Ayrshire Authorities										
Comhairle nan Eilean Siar										
Dumfries & Galloway										
East Central Scotland										
Forth Valley										
Highland										
North East Scotland										
Orkney & Shetland Islands										
Tay Area										
West Central Scotland										
Scotland										
Great Britain										

1. SPA / SAC are a subset of SSSI.
2. Green Belt is a planning policy designation.
3. Only includes those planning applications withdrawn and not subsequently re-submitted.
4. This table is intentionally blank due to non-occurrence of the data combination.
5. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table C17 Total quantity of sand and gravel in the planning system between 2020 and 2023 for sites within a development plan allocated area

Region	Granted		Refused		Withdrawn		Awaiting (as at 31 Dec. 2023)	
	Thousand tonnes	Permissions	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West	1,800	2					15,616	4
South East	4,818	4			315	1	15,320	9
London	900	2					100	1
East of England	28,451	17	8,400	2	545	1	8,008	7
East Midlands	9,363	15	1,732	2	3,400	1	4,550	3
West Midlands	19,238	11	3,936	2			9,260	5
North West	3,650	2					5,580	1
Yorkshire & the Humber	4,673	5					84	1
North East	5,800	1			6,700	1		
England	78,693	59	14,068	6	10,960	4	58,518	31
South Wales								
North Wales								
Wales								
England and Wales	78,693	59	14,068	6	10,960	4	58,518	31
Argyll & Bute								
Ayrshire Authorities								
Comhairle nan Eilean Siar								
Dumfries & Galloway								
East Central Scotland								
Forth Valley								
Highland								
North East Scotland	200	1						
Orkney & Shetland Islands								
Tay Area								
West Central Scotland	3,000	1					1,500	1
Scotland	3,200	2					1,500	1
Great Britain	81,893	61	14,068	6	10,960	4	60,018	32

1. Applies to allocated sites preferred areas and areas of search.

2. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Table C18 Total quantity of crushed rock in the planning system between 2020 and 2023 for sites within a development plan allocated area

Region	Granted		Refused		Withdrawn		Awaiting (as at 31 Dec. 2023)	
	Thousand tonnes	Permissions	Thousand tonnes	Applications	Thousand tonnes	Applications	Thousand tonnes	Applications
South West	22,600	3					18,820	1
South East								
London								
East of England								
East Midlands	6,615	4					28,103	4
West Midlands								
North West								
Yorkshire & the Humber	17,920	5					3,350	2
North East	2,700	1			1,375	1	18,951	4
England	49,835	13			1,375	1	69,224	11
South Wales	5,970	2					17,165	3
North Wales	19,866	1					2,360	1
Wales	25,836	3					19,525	4
England and Wales	75,671	16			1,375	1	88,749	15
Argyll & Bute								
Ayrshire Authorities								
Comhairle nan Eilean Siar	3,100	2					1,835	3
Dumfries & Galloway								
East Central Scotland	300	1						
Forth Valley								
Highland	150	1						
North East Scotland	2,000	1						
Orkney & Shetland Islands	3,000	1						
Tay Area								
West Central Scotland	2,000	1					4,000	1
Scotland	10,550	7					5,835	4
Great Britain	86,221	23			1,375	1	94,584	19

1. Applies to allocated sites, preferred areas and areas of search.

2. Excludes Argyll & Bute and Clackmannanshire (part of Forth Valley). Both planning authorities were unable to submit a return within the survey timeframe.

Appendix D – Comparison with previous AM surveys

Table D1 Comparison of sales of primary aggregates 1973, 1977, 1985, 1989, 1993, 1997, 2001, 2005, 2009, 2014, 2019 and 2023

Thousand tonnes												
Sand and Gravel – Land-Won and Marine-Dredged												
Region	1973	1977	1985	1989	1993	1997	2001	2005	2009	2014	2019	2023
South West	8,662	5,509	6,380	7,703	4,605	5,092	5,791	5,264	3,638	3,923	3,433	2,766
South East, London and East of England	60,660	46,731	49,305	62,345	38,648	36,175	40,643	34,474	25,220	29,474	27,041	27,021
East Midlands	14,184	10,539	10,959	15,961	13,278	11,314	10,046	10,014	5,501	6,600	7,063	4,968
West Midlands	13,511	10,020	10,853	13,830	10,849	9,936	9,932	9,105	5,860	5,877	6,476	7,973
Yorkshire & the Humber	6,780	4,991	4,324	6,175	4,706	4,958	5,211	4,695	3,122	2,509	2,312	2,989
North East & North West	10,638	7,880	6,690	8,791	7,202	7,977	5,705	6,270	3,597	3,981	4,155	3,595
England	114,435	85,670	88,511	114,805	79,288	75,452	77,328	69,821	46,938	52,363	50,480	49,311
South Wales	2,413	1,794	1,529	2,524	1,818	2,008	1,289	1,542	757	1,218	789	876
North Wales	2,536	1,860	1,576	1,909	1,725	1,392	1,387	1,237	621	927	1,021	851
Wales	4,949	3,654	3,105	4,433	3,543	3,400	2,676	2,779	1,378	2,145	1,810	1,727
England and Wales	119,384	89,324	91,616	119,238	82,831	78,852	80,004	72,599	48,317	54,507	52,290	51,039
Argyll & Bute											c	c
Ayrshire Authorities											290	286
Comhairle nan Eilean Siar											3	2
Dumfries & Galloway											407	337
East Central Scotland											739	1,211
Forth Valley											c	c
Highland											314	213
North East Scotland											482	324
Orkney & Shetland Islands											0	0
Tay Area											441	504
West Central Scotland											1,059	880
Scotland											3,735	4,089
Great Britain											56,025	55,128

Thousand tonnes												
Crushed Rock												
Region	1973	1977	1985	1989	1993	1997	2001	2005	2009	2014	2019	2023
South West	30,195	19,990	25,850	38,213	29,193	22,945	26,518	22,238	17,206	21,439	25,321	23,672
South East, London and East of England	1,961	1,611	2,126	3,820	1,759	2,299	3,053	1,724	1,583	2,427	2,130	2,498
East Midlands	21,569	16,451	21,508	33,651	31,741	31,475	31,254	28,793	21,421	23,806	29,164	26,921
West Midlands	10,428	7,960	8,317	12,804	8,402	6,456	5,497	4,516	2,639	3 775	4,919	4,022
Yorkshire & the Humber	12,033	10,066	9,610	16,936	13,867	13,157	12,701	11,964	7,240	9,040	9,546	10,189
North East & North West	17,151	15,274	15,717	21,345	21,110	19,523	16,630	14,301	9,225	10,014	11,934	11,183
England	93,337	71,352	83,128	126,769	106,072	95,855	95,652	83,535	59,314	70,501	83,015	78,485
South Wales	10,182	10,306	9,532	13,137	14,739	12,912	10,021	10,873	8,185	7,825	8,310	8,575
North Wales	6,247	4,110	6,959	10,497	8,044	7,549	7,198	5,663	3,245	4,168	4,522	5,039
Wales	16,429	14,416	16,491	23,634	22,783	20,461	17,219	16,536	11,430	11,994	12,832	13,613
England and Wales	109,766	85,768	99,619	150,403	128,855	116,316	112,872	100,071	70,744	82,495	95,847	92,099
Argyll & Bute											c	c
Ayrshire Authorities											2,153	1,906
Comhairle nan Eilean Siar											229	158
Dumfries & Galloway											165	655
East Central Scotland											2,142	2,432
Forth Valley												c
Highland											7,191	6,080
North East Scotland											1,124	808
Orkney & Shetland Islands											131	186
Tay Area											434	692
West Central Scotland											3,477	3,924
Scotland											17,045	17,625
Great Britain											112,892	109,724

Table D1 Comparison of sales of primary aggregates 1973, 1977, 1985, 1989, 1993, 1997, 2001, 2005, 2009, 2014, 2019 and 2023

Thousand tonnes												
Total Primary Aggregates												
Region	1973	1977	1985	1989	1993	1997	2001	2005	2009	2014	2019	2023
South West	38,857	25,499	32,230	45,916	33,798	28,037	32,309	27,501	20,844	25,362	28,754	26,438
South East, London and East of England	62,621	48,342	51,431	66,165	40,407	38,474	43,696	36,197	26,803	31,901	29,171	29,519
East Midlands	35,753	26,990	32,467	49,612	45,019	42,789	41,300	38,807	26,922	30,407	36,227	31,889
West Midlands	23,939	17,980	19,170	26,634	19,251	16,392	15,429	13,621	8,500	9,651	11,395	11,995
Yorkshire & the Humber	18,813	15,057	13,934	23,111	18,573	18,115	17,912	16,659	10,362	11,549	11,858	13,178
North East & North West	27,789	23,154	22,407	30,136	28,312	27,500	22,335	20,570	12,823	13,994	16,090	14,778
England	207,772	157,022	171,639	241,574	185,360	171,307	172,981	153,356	106,253	122,864	133,495	127,797
South Wales	12,595	12,100	11,061	15,661	16,557	14,920	11,310	12,416	8,942	9 043	9,099	9,451
North Wales	8,783	5,970	8,535	12,406	9,769	8,941	8,585	6,899	3,866	5,095	5,543	5,890
Wales	21,378	18,070	19,596	28,067	26,326	23,861	19,895	19,315	12,808	14,138	14,642	15,341
England and Wales	229,150	175,092	191,235	269,641	211,686	195,168	192,876	172,671	119,061	137,002	148,137	143,138
Argyll & Bute											c	122
Ayrshire Authorities											2,443	2,192
Comhairle nan Eilean Siar											231	160
Dumfries & Galloway											572	992
East Central Scotland											2,880	3,642
Forth Valley											c	993
Highland											7,505	6,293
North East Scotland											1,606	1,131
Orkney & Shetland Islands											132	187
Tay Area											875	1,196
West Central Scotland											4,536	4,804
Scotland											20,780	21,714
Great Britain											168,917	164,851

1. For 2019, Ayrshire Authorities includes Argyll and Bute, Tay Area includes Forth Valley.

Table D2 Comparison of consumption of primary aggregates 1973, 1977, 1985, 1989, 1993, 1997, 2001, 2005, 2009, 2014, 2019 and 2023

Thousand tonnes

Sand and Gravel – Land-Won and Marine-Dredged												
Region	1973	1977	1985	1989	1993	1997	2001	2005	2009	2014	2019	2023
South West	8,796	6,330	7,304	8,994	5,415	5,498	6,263	5,803	3,471	3,828	3,446	2,890
South East, London and East of England	61,447	46,330	48,488	62,211	38,597	32,272	40,191	32,858	24,411	29,030	26,670	26,200
East Midlands	11,115	7,973	8,889	13,145	9,944	8,559	8,703	9,275	5,569	5,678	5,845	5,244
West Midlands	11,507	8,854	9,820	12,527	10,519	9,015	9,564	8,149	5,444	5,753	5,849	7,800
Yorkshire & the Humber	7,697	6,279	5,327	7,938	6,646	6,458	5,614	6,238	3,214	3,257	2,903	2,717
North East & North West	13,409	9,951	7,551	10,328	8,444	8,691	6,889	6,247	3,926	3,712	4,285	3,973
England	113,971	85,717	87,379	115,143	79,565	70,493	77,225	68,571	46,035	51,259	48,999	48,824
South Wales	2,755	1,890	1,689	2,636	1,934	1,963	1,198	1,628	724	1,258	762	849
North Wales	n.a.	1,254	957	1,450	1,226	900	977	811	544	815	588	259
Wales	n.a.	3,144	2,646	4,086	3,160	2,863	2,175	2,439	1,268	2,073	1,350	1,107
England and Wales	n.a.	88,861	90,025	119,229	82,725	73,356	79,399	71,010	47,303	53,332	50,349	49,931
Argyll & Bute											c	c
Ayrshire Authorities											161	264
Comhairle nan Eilean Siar											3	2
Dumfries & Galloway											113	298
East Central Scotland											480	779
Forth Valley											c	c
Highland											323	208
North East Scotland											397	459
Orkney & Shetland Islands											0	0
Tay Area											488	303
West Central Scotland											1,236	1,381
Scotland											3,200	4,055
Great Britain											53,549	53,987

Thousand tonnes

Crushed Rock												
Region	1973	1977	1985	1989	1993	1997	2001	2005	2009	2014	2019	2023
South West	22,156	13,537	16,775	25,821	21,697	14,763	19,140	17,197	12,238	15,167	17,515	15,951
South East, London and East of England	12,406	9,193	13,335	24,608	15,294	14,579	22,736	17,404	13,745	15,857	20,046	22,587
East Midlands	10,979	9,456	12,538	18,598	17,232	15,568	14,448	13,002	10,613	12,141	16,100	13,693
West Midlands	11,406	8,577	10,265	16,376	11,297	8,419	10,475	9,677	5,040	6,289	7,957	7,680
Yorkshire & the Humber	12,455	10,292	9,103	16,790	14,311	12,848	12,793	11,511	7,779	9,007	10,086	11,071
North East & North West	23,955	21,655	22,891	32,500	29,718	28,221	25,450	22,499	13,821	17,770	18,011	17,264
England	93,357	72,710	84,907	134,693	109,549	94,398	105,042	91,289	63,236	76,230	89,714	88,246
South Wales	10,009	9,621	8,401	12,426	13,619	10,103	8,284	8,537	5,886	5,892	7,025	6,342
North Wales	n.a.	2,233	4,092	5,660	4,515	2,733	3,663	2,520	2,694	1,983	2,752	4,028
Wales	n.a.	11,854	12,493	18,086	18,135	12,836	11,947	11,057	8,580	7,875	9,778	10,370
England and Wales	n.a.	84,564	97,400	152,779	127,684	107,234	116,990	102,346	71,816	84,105	99,491	98,616
Argyll & Bute											c	c
Ayrshire Authorities											1,091	786
Comhairle nan Eilean Siar											229	158
Dumfries & Galloway											156	464
East Central Scotland											2,105	2,336
Forth Valley											c	c
Highland											1,134	535
North East Scotland											1,091	786
Orkney & Shetland Islands											131	186
Tay Area											514	1,240
West Central Scotland											3,853	4,326
Scotland											10,466	11,397
Great Britain											109,958	110,014

Table D2 Comparison of consumption of primary aggregates 1973, 1977, 1985, 1989, 1993, 1997, 2001, 2005, 2009, 2014, 2019 and 2023

Thousand tonnes

Region	Total Primary Aggregates											
	1973	1977	1985	1989	1993	1997	2001	2005	2009	2014	2019	2023
South West	30,952	19,867	24,079	34,815	27,112	20,261	25,403	22,999	15,710	18,995	20,961	18,841
South East, London and East of England	73,853	55,523	61,823	86,819	53,891	46,851	62,927	50,263	38,155	44,888	46,716	48,787
East Midlands	22,094	17,429	21,427	31,743	27,176	24,127	23,151	22,277	16,183	17,819	21,946	18,937
West Midlands	22,913	17,431	20,085	28,903	21,816	17,434	20,039	17,827	10,484	12,043	13,806	15,480
Yorkshire & the Humber	20,152	16,571	14,430	24,728	20,957	19,306	18,407	17,749	10,993	12,265	12,989	13,788
North East & North West	37,364	31,606	30,442	42,828	38,162	36,912	32,339	28,746	17,747	21,481	22,295	21,237
England	207,328	158,427	172,286	249,836	189,114	164,891	182,267	159,860	109,271	127,489	138,712	137,070
South Wales	12,764	11,511	10,090	15,062	15,553	12,066	9,482	10,165	6,611	7,150	7,787	7,191
North Wales	n.a.	3,487	5,049	7,110	5,742	3,633	4,640	3,331	3,238	2,798	3,341	4,287
Wales	n.a.	14,998	15,139	22,172	21,295	15,699	14,122	13,496	9,848	9,948	11,128	11,478
England and Wales	n.a.	173,425	187,425	272,008	210,408	180,590	196,389	173,356	119,120	137,438	149,840	148,548
Argyll & Bute											c	211
Ayrshire Authorities											1,252	1,051
Comhairle nan Eilean Siar											232	160
Dumfries & Galloway											269	761
East Central Scotland											2,585	3,115
Forth Valley											c	729
Highland											1,457	743
North East Scotland											1,488	1,245
Orkney & Shetland Islands											131	187
Tay Area											1,002	1,543
West Central Scotland											5,089	5,707
Scotland											13,666	15,453
Great Britain											163,506	164,000

1. For 2019, Ayrshire Authorities includes Argyll and Bute, Tay Area includes Forth Valley.

Table D3 Comparison of permitted reserves of primary aggregates 1973, 1977, 1985, 1989, 1993, 1997, 2001, 2005, 2009, 2014, 2019 and 2023

Million tonnes

Region	Sand and Gravel											
	1973	1977	1985	1989	1993	1997	2001	2005	2009	2014	2019	2023
South West	153	171	72	72	83	74	50	51	41	29	26	21
South East, London and East of England	442	n.a.	377	363	405	359	330	250	228	192	185	178
East Midlands	175	147	143	149	130	126	99	77	81	60	68	61
West Midlands	188	156	140	132	140	166	144	127	104	89	91	91
Yorkshire & the Humber	66	43	42	54	37	58	51	42	34	25	32	36
North East & North West	101	66	74	74	100	98	79	56	57	44	40	37
England	1,125	n.a.	848	844	895	881	752	603	544	438	442	424
South Wales	9	n.a.	2	0	10	14	8	3	2	3	2	2
North Wales	28	n.a.	20	16	20	26	23	15	19	16	15	12
Wales	37	n.a.	22	16	30	40	31	18	21	19	17	14
England and Wales	1,162	n.a.	870	860	925	921	783	622	565	457	460	438
Argyll & Bute											c	c
Ayrshire Authorities											4	4
Comhairle nan Eilean Siar											0	0
Dumfries & Galloway											6	10
East Central Scotland											32	35
Forth Valley											c	c
Highland											4	4
North East Scotland											5	4
Orkney & Shetland Islands											0	0
Tay Area											3	6
West Central Scotland											16	16
Scotland											69	80
Great Britain											528	518

Million tonnes

Region	Crushed Rock											
	1973	1977	1985	1989	1993	1997	2001	2005	2009	2014	2019	2023
South West	1,788	1,842	1,089	1,393	1,310	1,435	1,426	920	868	818	869	729
South East, London and East of England	n.a. ¹	n.a.	31	42	71	57	88	62	62	57	31	25
East Midlands	1,733	1,543	1,773	1,896	1,957	2,091	2,166	1,375	1,303	919	1,227	1,054
West Midlands	228	267	241	235	216	465	309	306	312	269	188	196
Yorkshire & the Humber	522	n.a.	257	413	531	550	471	347	301	239	222	265
North East & North West	1,162	1,011	809	717	1,002	705	605	545	544	478	440	437
England	5,433	n.a.	4,200	4,696	5,087	5,303	5,065	3,556	3,391	2,779	2,976	2,706
South Wales	656	n.a.	492	419	581	651	648	499	419	512	523	442
North Wales	619	n.a.	1,117	772	433	399	505	205	172	158	197	175
Wales	1,275	n.a.	1,609	1,191	1,014	1,050	1,153	705	591	669	720	617
England and Wales	6,708	n.a.	5,809	5,887	6,101	6,353	6,218	4,260	3,982	3,448	3,697	3,323
Argyll & Bute											c	c
Ayrshire Authorities											103	84
Comhairle nan Eilean Siar											5	5
Dumfries & Galloway											18	24
East Central Scotland											61	78
Forth Valley												c
Highland											750	723
North East Scotland											140	138
Orkney & Shetland Islands											1	5
Tay Area											13	22
West Central Scotland											137	146
Scotland											1,229	1,265
Great Britain											4,925	4,589

Table D3 Comparison of permitted reserves of primary aggregates 1973, 1977, 1985, 1989, 1993, 1997, 2001, 2005, 2009, 2014, 2019 and 2023

Million tonnes

million tonnes												
Region	Total Primary Aggregates											
	1973	1977	1985	1989	1993	1997	2001	2005	2009	2014	2019	2023
South West	1,941	2,013	1,161	1,465	1,393	1,509	1,476	971	909	847	894	750
South East, London and East of England	n.a.	n.a.	408	405	476	416	418	312	291	248	216	203
East Midlands	1,908	1,690	1,916	2,045	2,087	2,217	2,265	1,452	1,384	978	1,295	1,116
West Midlands	416	423	381	367	356	631	453	433	415	358	279	287
Yorkshire & the Humber	588	n.a.	299	467	568	608	522	389	335	264	254	301
North East & North West	1,263	1,077	883	791	1,102	803	684	601	601	521	480	474
England	n.a.	n.a.	5,048	5,540	5,982	6,184	5,817	4,159	3,935	3,217	3,419	3,130
South Wales	665	n.a.	494	419	591	665	655	502	421	515	525	444
North Wales	647	n.a.	1,137	788	453	425	528	220	192	174	212	187
Wales	1,312	n.a.	1,631	1,207	1,044	1,090	1,184	723	612	689	738	631
England and Wales	n.a.	n.a.	6,679	6,747	7,026	7,274	7,001	4,882	4,547	3,906	4,157	3,761
Argyll & Bute											c	20
Ayrshire Authorities											107	87
Comhairle nan Eilean Siar											5	5
Dumfries & Galloway											24	34
East Central Scotland											92	113
Forth Valley											c	21
Highland											754	727
North East Scotland											146	142
Orkney & Shetland Islands											1	5
Tay Area											16	29
West Central Scotland											153	162
Scotland											1,298	1,345
Great Britain											5,455	5,106

1. n.a. - not available.

2. n.a.¹ - not available but assumed to be negligible.

3. Reserve figures for AM2005 onwards are not directly comparable to earlier years. From 2005, 'reserves' in dormant sites and for non-aggregate uses were excluded.

4. A comparison of AM2014 reserves for each region with the subsequent AWP/RAWP annual monitoring reports indicates that reserves, in particular of crushed rock, were likely under-reported to the AM2014 survey for a number of regions. Data reported in AWP/RAWP annual monitoring reports indicate total reserves of sand and gravel at the end of 2014 were 468 Mt in England and 20 Mt in Wales and those for crushed rock were 3 331 Mt in England and 664 Mt in Wales.

5. For 2019, Ayrshire Authorities includes Argyll and Bute, Tay Area includes Forth Valley.

Appendix E – Comparison with AM2001, AM2005, AM2009, AM2014, AM2019 and AM2023 surveys

Table E1 Comparison of sales of primary aggregates 2001, 2005, 2009, 2014, 2019 and 2023

Thousand tonnes

Sand and Gravel – Land-Won						
Region	2001	2005	2009	2014	2019	2023
South West	5,184	4,603	3,152	3,278	2,870	2,254
South East	12,450	9,573	6,007	5,858	6,311	4,904
London	837	1,038	577	376	475	514
East of England	15,025	13,720	9,666	11,586	10,774	10,145
East Midlands	10,046	10,014	5,501	6,600	7,063	4,968
West Midlands	9,932	9,105	5,860	5,877	6,476	7,973
North West	3,097	2,932	2,180	2,461	2,238	1,440
Yorkshire & the Humber	4,936	4,398	2,929	2,509	2,312	2,632
North East	1,177	1,360	758	873	1,187	933
England	62,684	56,743	36,631	39,418	39,708	35,763
South Wales	115	304	144	205	181	126
North Wales	1,342	1,192	589	897	999	844
Wales	1,458	1,496	733	1,102	1,180	970
England and Wales	64,141	58,239	37,363	40,520	40,887	36,733
Argyll & Bute					c	c
Ayrshire Authorities					290	286
Comhairle nan Eilean Siar					3	2
Dumfries & Galloway					407	337
East Central Scotland					739	1,211
Forth Valley					c	c
Highland					314	213
North East Scotland					482	324
Orkney & Shetland Islands					0	0
Tay Area					441	504
West Central Scotland					1,059	880
Scotland					3,735	4,089
Great Britain					44,623	40,822

Thousand tonnes

Sand and Gravel – Marine-Dredged						
Region	2001	2005	2009	2014	2019	2023
South West	607	661	487	645	563	512
South East	7,219	5,952	4,985	6,626	4,893	7,016
London	3,725	4,035	3,662	4,678	4,237	3,893
East of England	1,387	154	322	350	350	549
East Midlands						
West Midlands						
North West	447	838	97	109	97	286
Yorkshire & the Humber	275	298	192			357
North East	985	1,140	563	537	633	935
England	14,644	13,078	10,308	12,944	10,773	13,549
South Wales	1,174	1,238	613	1,013	608	749
North Wales	44	45	32	30	22	8
Wales	1,218	1,283	645	1,043	630	757
England and Wales	15,862	14,361	10,953	13,987	11,403	14,306
Argyll & Bute						
Ayrshire Authorities						
Comhairle nan Eilean Siar						
Dumfries & Galloway						
East Central Scotland						
Forth Valley						
Highland						
North East Scotland						
Orkney & Shetland Islands						
Tay Area						
West Central Scotland						
Scotland						
Great Britain					11,403	14,306

Table E1 Comparison of sales of primary aggregates 2001, 2005, 2009, 2014, 2019 and 2023

Thousand tonnes						
Sand and Gravel – Total						
Region	2001	2005	2009	2014	2019	2023
South West	5,791	5,264	3,638	3,923	3,433	2,766
South East	19,669	15,526	10,992	12,484	11,205	11,920
London	4,562	5,073	4,239	5,054	4,711	4,407
East of England	16,412	13,875	9,989	11,936	11,125	10,694
East Midlands	10,046	10,014	5,501	6,600	7,063	4,968
West Midlands	9,932	9,105	5,860	5,877	6,476	7,973
North West	3,544	3,770	2,276	2,571	2,335	1,726
Yorkshire & the Humber	5,211	4,695	3,122	2,509	2,312	2,989
North East	2,162	2,500	1,321	1,410	1,820	1,869
England	77,328	69,821	46,938	52,363	50,480	49,311
South Wales	1,289	1,542	757	1,218	789	876
North Wales	1,387	1,237	621	927	1,021	851
Wales	2,676	2,779	1,378	2,145	1,810	1,727
England and Wales	80,004	72,599	48,317	54,507	52,290	51,039
Argyll & Bute					c	c
Ayrshire Authorities					290	286
Comhairle nan Eilean Siar					3	2
Dumfries & Galloway					407	337
East Central Scotland					739	1,211
Forth Valley					c	c
Highland					314	213
North East Scotland					482	324
Orkney & Shetland Islands					0	0
Tay Area					441	504
West Central Scotland					1,059	880
Scotland					3,735	4,089
Great Britain					56,025	55,128

Thousand tonnes						
Crushed Rock						
Region	2001	2005	2009	2014	2019	2023
South West	26,518	22,238	17,206	21,439	25,321	23,672
South East	2,398	1,238	1,294	1,795	2,026	2,375
London						
East of England	655	486	289	632	104	123
East Midlands	31,254	28,793	21,421	23,806	29,164	26,921
West Midlands	5,497	4,516	2,639	3,775	4,919	4,022
North West	10,034	8,644	5,897	5,849	6,466	5,800
Yorkshire & the Humber	12,701	11,964	7,240	9,040	9,546	10,189
North East	6,596	5,657	3,328	4,165	5,468	5,383
England	95,652	83,535	59,314	70,501	83,015	78,485
South Wales	10,021	10,873	8,185	7,825	8,310	8,575
North Wales	7,198	5,663	3,245	4,168	4,522	5,039
Wales	17,219	16,536	11,430	11,994	12,832	13,613
England and Wales	112,872	100,071	70,744	82,495	95,847	92,099
Argyll & Bute					c	c
Ayrshire Authorities					2,153	1,906
Comhairle nan Eilean Siar					229	158
Dumfries & Galloway					165	655
East Central Scotland					2,142	2,432
Forth Valley						c
Highland					7,191	6,080
North East Scotland					1,124	808
Orkney & Shetland Islands					131	186
Tay Area					434	692
West Central Scotland					3,477	3,924
Scotland					17,045	17,625
Great Britain					112,892	109,724

Table E1 Comparison of sales of primary aggregates 2001, 2005, 2009, 2014, 2019 and 2023

Thousand tonnes

Region	Total Primary Aggregates					
	2001	2005	2009	2014	2019	2023
South West	32,309	27,501	20,844	25,362	28,754	26,438
South East	22,067	16,763	12,286	14,279	13,231	14,295
London	4,562	5,073	4,239	5,054	4,711	4,407
East of England	17,066	14,361	10,278	12,568	11,229	10,817
East Midlands	41,300	38,807	26,922	30,407	36,227	31,889
West Midlands	15,429	13,621	8,500	9,651	11,395	11,995
North West	13,578	12,413	8,174	8,419	8,801	7,526
Yorkshire & the Humber	17,913	16,659	10,362	11,549	11,858	13,178
North East	8,758	8,157	4,649	5,575	7,289	7,252
England	172,981	153,356	106,253	122,864	133,495	127,797
South Wales	11,310	12,416	8,942	9,043	9,099	9,451
North Wales	8,585	6,899	3,866	5,095	5,543	5,890
Wales	19,895	19,315	12,808	14,138	14,642	15,341
England and Wales	192,876	172,671	119,061	137,002	148,137	143,138
Argyll & Bute					c	122
Ayrshire Authorities					2,443	2,192
Comhairle nan Eilean Siar					231	160
Dumfries & Galloway					572	992
East Central Scotland					2,880	3,642
Forth Valley					c	993
Highland					7,505	6,293
North East Scotland					1,606	1,131
Orkney & Shetland Islands					132	187
Tay Area					875	1,196
West Central Scotland					4,536	4,804
Scotland					20,780	21,714
Great Britain					168,917	164,851

1. For 2019, Ayrshire Authorities includes Argyll and Bute, Tay Area includes Forth Valley.

Table E2 Comparison of consumption of primary aggregates 2001, 2005, 2009, 2014, 2019 and 2023

Thousand tonnes						
Sand and Gravel – Land-Won						
Region	2001	2005	2009	2014	2019	2023
South West	5,604	5,236	2,960	3,190	2,904	2,345
South East	12,488	7,551	5,679	5,623	6,144	4,797
London	2,021	2,185	1,459	1,834	1,040	916
East of England	13,404	12,987	8,412	9,965	10,441	9,263
East Midlands	8,703	9,275	5,569	5,678	5,845	5,244
West Midlands	9,564	8,138	5,427	5,750	5,846	7,786
North West	3,656	2,720	1,891	2,000	2,466	1,874
Yorkshire & the Humber	5,337	5,917	2,980	3,249	2,863	2,303
North East	1,826	1,949	1,444	1,097	1,135	935
England	62,602	55,958	35,821	38,385	36,687	35,462
South Wales	283	390	209	247	192	145
North Wales	909	748	491	762	558	251
Wales	1,191	1,138	700	1,010	751	396
England and Wales	63,794	57,096	36,521	39,395	39,437	35,858
Argyll & Bute					c	c
Ayrshire Authorities					161	264
Comhairle nan Eilean Siar					3	2
Dumfries & Galloway					113	298
East Central Scotland					480	779
Forth Valley					c	c
Highland					323	208
North East Scotland					397	459
Orkney & Shetland Islands					0	0
Tay Area					488	303
West Central Scotland					1,236	1,381
Scotland					3,200	4,055
Great Britain					40,638	39,913

Thousand tonnes						
Sand and Gravel – Marine-Dredged						
Region	2001	2005	2009	2014	2019	2023
South West	659	567	511	638	542	545
South East	7,036	5,691	4,700	6,448	4,935	7,012
London	5,090	4,278	3,824	3,849	2,295	3,211
East of England	153	167	336	1,311	1,814	1,002
East Midlands						
West Midlands	1	12	17	4	3	14
North West	425	820	76	87	89	286
Yorkshire & the Humber	277	322	234	8	40	414
North East	982	758	515	528	593	878
England	14,622	12,613	10,214	12,874	10,312	13,362
South Wales	915	1,238	516	1011	570	704
North Wales	68	63	53	52	30	8
Wales	983	1,301	568	1,063	599	712
England and Wales	15,606	13,914	10,782	13,937	10,911	14,073
Argyll & Bute						
Ayrshire Authorities						
Comhairle nan Eilean Siar						
Dumfries & Galloway						
East Central Scotland						
Forth Valley						
Highland						
North East Scotland						
Orkney & Shetland Islands						
Tay Area						
West Central Scotland						
Scotland						
Great Britain					10,911	14,073

Table E2 Comparison of consumption of primary aggregates 2001, 2005, 2009, 2014, 2019 and 2023

Thousand tonnes

Sand and Gravel – Total						
Region	2001	2005	2009	2014	2019	2023
South West	6,263	5,803	3,471	3828	3,446	2,890
South East	19,524	13,241	10,380	12071	11,079	11,809
London	7,110	6,463	5,283	5683	3,335	4,127
East of England	13,557	13,154	8,748	11276	12,256	10,264
East Midlands	8,703	9,275	5,569	5678	5,845	5,244
West Midlands	9,564	8,149	5,444	5753	5,849	7,800
North West	4,081	3,540	1,967	2087	2,556	2,160
Yorkshire & the Humber	5,614	6,238	3,214	3257	2,903	2,717
North East	2,808	2,707	1,959	1625	1,729	1,813
England	77,225	68,571	46,035	51259	48,999	48,824
South Wales	1,198	1,628	724	1,258	762	849
North Wales	977	811	544	815	588	259
Wales	2,175	2,439	1,268	2,073	1,350	1,107
England and Wales	79,399	71,010	47,303	53,332	50,349	49,931
Argyll & Bute					c	c
Ayrshire Authorities					161	264
Comhairle nan Eilean Siar					3	2
Dumfries & Galloway					113	298
East Central Scotland					480	779
Forth Valley					c	c
Highland					323	208
North East Scotland					397	459
Orkney & Shetland Islands					0	0
Tay Area					488	303
West Central Scotland					1,236	1,381
Scotland					3,200	4,055
Great Britain					53,549	53,987

Thousand tonnes

Crushed Rock						
Region	2001	2005	2009	2014	2019	2023
South West	19,140	17,197	12,238	15,167	17,515	15,951
South East	14,603	7,935	5,383	7,126	7,091	10,975
London	2,453	3,892	4,086	3,890	4,023	5,174
East of England	5,680	5,577	4,276	4,841	8,932	6,438
East Midlands	14,448	13,002	10,613	12,141	16,100	13,693
West Midlands	10,475	9,677	5,040	6,289	7,957	7,680
North West	18,058	16,631	10,299	13,276	12,240	11,511
Yorkshire & the Humber	12,793	11,511	7,779	9,007	10,086	11,071
North East	7,392	5,868	3,522	4,494	5,771	5,753
England	105,042	91,289	63,236	76,230	89,714	88,246
South Wales	8,284	8,537	5,886	5,892	7,025	6,342
North Wales	3,663	2,520	2,694	1,983	2,752	4,028
Wales	11,947	11,057	8,580	7,875	9,778	10,370
England and Wales	116,990	102,346	71,816	84,105	99,491	98,616
Argyll & Bute					c	c
Ayrshire Authorities					1,091	786
Comhairle nan Eilean Siar					229	158
Dumfries & Galloway					156	464
East Central Scotland					2,105	2,336
Forth Valley					c	c
Highland					1,134	535
North East Scotland					1,091	786
Orkney & Shetland Islands					131	186
Tay Area					514	1,240
West Central Scotland					3,853	4,326
Scotland					10,466	11,397
Great Britain					109,958	110,014

Table E2 Comparison of consumption of primary aggregates 2001, 2005, 2009, 2014, 2019 and 2023

Region	Total Primary Aggregates					
	2001	2005	2009	2014	2019	2023
South West	25,404	22,999	15,710	18,995	20,961	18,841
South East	34,127	21,176	15,762	19,197	18,170	22,784
London	9,563	10,355	9,369	9,573	7,358	9,301
East of England	19,237	18,732	13,024	16,118	21,188	16,702
East Midlands	23,151	22,277	16,183	17,819	21,946	18,937
West Midlands	20,039	17,827	10,484	12,043	13,806	15,480
North West	22,139	20,171	12,266	15,363	14,796	13,671
Yorkshire & the Humber	18,407	17,749	10,993	12,265	12,989	13,788
North East	10,201	8,575	5,481	6,118	7,499	7,566
England	182,267	159,860	109,271	127,489	138,712	137,070
South Wales	9,482	10,165	6,611	7,150	7,787	7,191
North Wales	4,640	3,331	3,238	2,798	3,341	4,287
Wales	14,122	13,496	9,848	9,948	11,128	11,478
England and Wales	196,389	173,356	119,120	137,438	149,840	148,548
Argyll & Bute					c	211
Ayrshire Authorities					1,252	1,051
Comhairle nan Eilean Siar					232	160
Dumfries & Galloway					269	761
East Central Scotland					2,585	3,115
Forth Valley					161	729
Highland					1,457	743
North East Scotland					1,488	1,245
Orkney & Shetland Islands					131	187
Tay Area					1,002	1,543
West Central Scotland					5,089	5,707
Scotland					13,666	15,453
Great Britain					163,506	164,000

1. For 2019, Ayrshire Authorities includes Argyll and Bute, Tay Area includes Forth Valley.

Table E3 Comparison of permitted reserves of primary aggregates 2001, 2005, 2009, 2014, 2019 and 2023

Million tonnes						
Sand and Gravel						
Region	2001	2005	2009	2014	2019	2023
South West	50	51	41	29	26	21
South East	142	81	79	67	66	51
London	3	3	2	1	3	5
East of England	185	166	147	124	116	121
East Midlands	99	77	81	60	68	61
West Midlands	144	127	104	89	91	91
North West	58	41	42	25	23	13
Yorkshire & the Humber	51	42	34	25	32	36
North East	21	15	15	18	17	24
England	752	603	544	438	442	424
South Wales	8	3	2	3	2	2
North Wales	23	15	19	16	15	12
Wales	31	18	21	19	17	14
England and Wales	783	622	565	457	460	438
Argyll & Bute					c	c
Ayrshire Authorities					4	4
Comhairle nan Eilean Siar					0	0
Dumfries & Galloway					6	10
East Central Scotland					32	35
Forth Valley					c	c
Highland					4	4
North East Scotland					5	4
Orkney & Shetland Islands					0	0
Tay Area					3	6
West Central Scotland					16	16
Scotland					69	80
Great Britain					528	518

Million tonnes						
Crushed Rock						
Region	2001	2005	2009	2014	2019	2023
South West	1,386	920	868	818	869	729
South East	73	54	59	52	27	21
London						
East of England	15	8	3	5	4	4
East Midlands	2,166	1,375	1,303	919	1,227	1,054
West Midlands	309	306	312	269	188	196
North West	346	302	327	258	242	241
Yorkshire & the Humber	471	347	301	239	222	265
North East	259	244	217	220	198	196
England	5,023	3,556	3,391	2,779	2,976	2,706
South Wales	648	499	419	512	523	442
North Wales	505	205	172	158	197	175
Wales	1,153	705	591	669	720	617
England and Wales	6,176	4,260	3,982	3,448	3,697	3,323
Argyll & Bute					c	c
Ayrshire Authorities					103	84
Comhairle nan Eilean Siar					5	5
Dumfries & Galloway					18	24
East Central Scotland					61	78
Forth Valley						c
Highland					750	723
North East Scotland					140	138
Orkney & Shetland Islands					1	5
Tay Area					13	22
West Central Scotland					137	146
Scotland					1,229	1,265
Great Britain					4,925	4,589

Table E3 Comparison of permitted reserves of primary aggregates 2001, 2005, 2009, 2014, 2019 and 2023

Region	Total Primary Aggregates					
	2001	2005	2009	2014	2019	2023
South West	1,436	971	909	847	894	750
South East	214	135	138	119	92	72
London	3	3	2	1	3	5
East of England	200	175	151	128	120	125
East Midlands	2,265	1,452	1,384	978	1,295	1,116
West Midlands	453	433	415	358	279	287
North West	404	343	369	283	265	254
Yorkshire & the Humber	521	389	335	264	254	301
North East	280	258	232	238	215	219
England	5,776	4,159	3,935	3,217	3,419	3,130
South Wales	655	502	421	515	525	444
North Wales	528	220	192	174	212	187
Wales	1,184	723	612	689	738	631
England and Wales	6,960	4,882	4,547	3 906	4 157	3,761
Argyll & Bute					c	20
Ayrshire Authorities					107	87
Comhairle nan Eilean Siar					5	5
Dumfries & Galloway					24	34
East Central Scotland					92	113
Forth Valley					c	21
Highland					754	727
North East Scotland					146	142
Orkney & Shetland Islands					1	5
Tay Area					16	29
West Central Scotland					153	162
Scotland					1,298	1,345
Great Britain					5,455	5,106

1. Reserve figures for AM2005 onwards are not directly comparable to earlier years. From 2005, 'reserves' in dormant sites and for non-aggregate uses were excluded.

2. A comparison of AM2014 reserves for each region with the subsequent AWP/RAWP annual monitoring reports indicates that reserves, in particular of crushed rock, were likely under-reported to the AM2014 survey for a number of regions. Data reported in AWP/RAWP annual monitoring reports indicate total reserves of sand and gravel at the end of 2014 were 468 Mt in England and 20 Mt in Wales and those for crushed rock were 3 331 Mt in England and 664 Mt in Wales.

3. For 2019, Ayrshire Authorities includes Argyll and Bute, Tay Area includes Forth Valley.

Appendix F – Survey forms A and B

Published as a separate downloadable file.

Appendix G – Glossary of terms and abbreviations

Active/Inactive	Sites are described as <i>active</i> where material was produced at any time during 2023 and as <i>inactive</i> when the site was not in production during that period. Inactive sites include those that have been worked in the past and those which have yet to begin.
Aggregate	Granular or particulate material which is suitable for use (on its own or with the addition of cement, lime or bituminous binder) in construction as concrete, mortar, roadstone, asphalt or drainage courses, or for use as constructional fill or railway ballast (also referred to as 'construction aggregates').
Aggregate mineral	Naturally-occurring material suitable for aggregate uses.
Primary aggregates	Aggregate produced from naturally-occurring mineral deposits and used for the first time.
Secondary aggregates	This term is becoming increasingly unclear and requires more rigorous definition. Aggregate which originates as a waste of other quarrying and mining operations, or from industrial processes (e.g. colliery waste or minestone, blast furnace slag, power station ash, china clay waste, slate waste), but excluding chalk and clay/shale worked primarily for aggregate purposes.
Aggregate sales	The tonnage of mineral leaving a quarry/wharf as measured at a weighbridge.
Aggregate consumption	Apparent consumption is calculated from data on known sales within each home region (or sub-region), plus known imports from other regions (or sub-regions) and, where appropriate, known imports from outside Great Britain (e.g. Northern Ireland and Europe). It is less than total consumption due to unallocated sales of unknown destination which, therefore, cannot be attributed to any consuming region (or sub-region). Further, some caution should be used in interpreting the consumption figures as they are calculated from the principal destination of aggregate flows. Final sales, particularly for rail-borne aggregates, may be to other regions. For example, some material transported to the East of England may be finally consumed in London and the South East.
Allocated area	Areas of land designated in a mineral plan for mineral extraction.
Area of search	Designated in a mineral plan, areas of search identify where knowledge of mineral resources may be less certain but within which planning permission may be granted.

All sites	All land-won mineral workings for the production of aggregates.
AONB	Area of Outstanding Natural Beauty designated under the National Parks and Access to the Countryside Act 1949 / Countryside and Rights of Way Act 2000 (as amended) for the purposes of conserving and enhancing their natural beauty. AONBs were renamed National Landscapes in 2023. See National Landscape.
AWP	Aggregate Working Party (in England).
BAA	British Aggregates Association, the trade body for independent quarry companies.
Borrow pit	A site for the extraction of aggregate minerals over a limited period, for exclusive use in a specific construction project, which will usually be close to or contiguous with the site.
Construction fill	Fill material that will bear loads (e.g. in suitably designed embankments) as distinct from landfill to occupy voids and not specially intended to bear loads.
Dormant site	Dormant sites may be defined in accordance with the Planning & Compensation Act 1991 (PCA 1991) or the Environment Act 1995 (EA 1995) or the Environment Act 1995 re-enacted in the Town and Country Planning (Scotland) Act 1997. In respect of the PCA 1991 the term defines a site where mineral planning permission was granted after 21 July 1943 and before 1 July 1948 and where no working has been carried out to any substantial extent in, on or under the land to which the permission relates between 1 May 1989 and 30 April 1991 inclusive. In respect of the EA 1995 the term defines a site where the predominant mineral permission(s) was granted after 30 June 1948 and before 22 February 1982, and where no mineral development has been carried out to any substantial extent in, on or under the site between 22 February 1982 and 6 June 1995 inclusive. The term “substantial extent” is not defined in statute and, in the absence of case law, the words have their common or everyday meaning. It is unlawful to carry out mineral working on a dormant site until full modern planning conditions have been approved by the relevant Mineral (or Local, in Scotland) Planning Authority (MPA). There is no time limit for the submission to the relevant planning authority of an application for the determination of such conditions. Dormant sites do not contain permitted reserves.
Extension	A site granted permission for the extraction of aggregate minerals for which there has been a change in the size (laterally or vertically) of the development from the original planning consent.

Green Belt	An area of land designated in development plans within which the fundamental aim is to prevent urban sprawl by keeping that land permanently open.
Greenfield site	For the purposes of the Aggregate Minerals Survey, land previously in agriculture or non-urban/industrial use which becomes the location for a new mineral operation. Analogous to new quarries.
Hoggin	A term mainly applied in southern England for 'as raised' clayey sand and gravel, used as dug for constructional fill for low-grade purposes, paths etc. ('A natural deposit of stony sand and gravel containing a small admixture of clay which is sufficient to hold the mass together without affecting the interlocking properties of the coarser particles.' Mineral Dossier on Sand and Gravel. Mineral Resources Consultative Committee, 1970).
New quarries	A totally new mineral operation.
Landbank	A stock of planning permissions to which valid conditions are attached for the winning and working of minerals. It is composed of the sum of all permitted reserves at active and inactive sites (but not dormant sites) at a given point in time, and for a given area.
LPA	Local Planning Authority (Scotland), responsible for planning control over mineral working within its area. The equivalent in England and Wales is Mineral Planning Authority
Marine wharves	Points at which marine-dredged sand and gravel are landed and processed. Some marine wharves are used for landing crushed rock.
MPA	Mineral Planning Authority (England and Wales), responsible for planning control over mineral working within its area. The equivalent in Scotland is Local Planning Authority.
MPA	Mineral Products Association, the trade association which represents quarry operators, who together account for more than 90% of the quarried aggregate materials in Great Britain.
Mt	Million tonnes (i.e. Megatonne).
NNR	National Nature Reserves designated by Natural England, Natural Resources Wales or NatureScot in accordance with the Wildlife and Countryside Act 1981 (as amended) to protect important habitats, species and geology, and to provide 'outdoor laboratories' for research.
National Landscape	National Landscape (England and Wales), formerly Area of Outstanding Natural Beauty (AONB) designated under the National Parks and Access to the Countryside Act 1949 / Countryside and Rights of Way Act 2000 (as amended) for

the purposes of conserving and enhancing their natural beauty. AONBs were renamed National Landscapes in 2023.

National Park	National Parks are designated under the National Parks and Access to the Countryside Act 1949 (as amended). Their aims are to conserve and enhance the natural beauty, wildlife and cultural heritage they contain, and to promote opportunities and enjoyment by the public of the areas they cover. An independent National Park Authority administers each Park. The Norfolk and Suffolk Broads are also administered by their own independent authority and enjoy protection equivalent to that of a National Park.
National Scenic Area	National Scenic Area (Scotland only). Originally listed in 1981, NSAs are currently designated under the Planning etc. (Scotland) Act 2006. All NSAs were redesignated under this act via a single order in 2010. They are protected for their exceptional scenic value.
Non-aggregate uses	Use of material suitable for aggregate purposes (see Aggregate above) for uses other than constructional and normal aggregate applications. Such uses could include ingredients in industrial processes, e.g. the manufacture of cement, chemicals, refractories, iron/steel, glass, ceramics, sugar, plastics, rubber, paper and sealants. It would not cover the use of finely crushed material used to manufacture concrete bricks, blocks, pipes and tiles (this is classed as aggregate). However, it would, for example, include lime use in bricks or blocks. The term also covers building, dimension, memorial, paving, walling and armour stone (e.g. for sea/river defences) (i.e. in all cases where not crushed) and ground limestone or dolomite use in agricultural fertilizers and feedstuffs. The term 'industrial uses' is sometimes used synonymously with 'non-aggregate uses' but this term could imply the exclusion of building stone and material for agricultural use.
Permitted reserve	The tonnage of mineral in a site (including stockpiles) for which full planning consent (planning permission with determined conditions attached) for extraction exists. Such sites may be operational or inactive. Inactive sites include those where extraction has been undertaken in the past and where permitted reserves still remain and those where planning permission has been granted but extraction has yet to begin. Dormant sites (see relevant glossary entry) cannot be worked until new schemes of conditions have been determined and therefore do not contain permitted reserves. See also Landbank.
Preferred area	Designated in a mineral plan, preferred areas contain mineral resources where planning permission might reasonably be anticipated.
RAWP	Regional Aggregate Working Party (in Wales).

SAC	Special Areas of Conservation designated in accordance with regulation 3 of the Conservation of Habitats and Species Regulations 2017 have been given special protection as important conservation sites. SACs are also SSSIs.
SPA	Special Protection Areas designated in accordance with regulation 15 of the Conservation of Habitats and Species Regulations 2017 have been identified as being of international importance for the breeding, feeding, wintering or the migration of rare and vulnerable species of birds. SPAs are also SSSIs.
SSSI	Site of Special Scientific Interest designated by Natural England, Natural Resources Wales or NatureScot in accordance with the Wildlife and Countryside Act 1981 (as amended) so as to conserve areas of special interest for their flora, fauna, geological or geomorphological interest.

Appendix H – Bibliography

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Each Aggregate Working Party in England and Wales produces Annual Monitoring Survey reports. The results of the AM2023 Survey will also appear in the AWP Annual Reports for 2023. These are available from the AWP Technical Secretaries (see Appendix I).

Appendix I – Aggregate Working Parties: Secretaries (current as of March 2024)

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Appendix J – Members of the AM2023 National Collation Steering Group

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William Carlin
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Gareth Dudley Jones
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Aggregate Working Parties

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RAWP

Hannah Parish, Flintshire County Council
- Secretary, North Wales RAWP

Richard Read
Secretary, South East AWP

Kevin Tipple, Northumberland County
Council – Secretary, North East AWP

Julia Webberley, David Jarvis Associates
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Ellie Inglis-Woolcock, Cornwall Council –
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Ellie Evans – Data Analysis

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Tom Bide – Quality Assurance

Appendix L – Mineral Planning Authorities within Aggregate Working Party regions and destination sub-regions, England and Wales in 2023

Aggregate Working Party Region	Map 1	Mineral Planning Authority
South West	1	Bath and North East Somerset Council
	2	Bournemouth, Christchurch and Poole Council
	3	Bristol City Council
	4	Cornwall Council
	5	Council of the Isles of Scilly
	6	Dartmoor National Park Authority
	7	Devon County Council
	8	Dorset Council
	9	Exmoor National Park Authority
	10	Gloucestershire County Council
	11	North Somerset Council
	12	Plymouth City Council
	13	Somerset Council
	14	South Gloucestershire Council
	15	Swindon Borough Council
	16	Torbay Council
	17	Wiltshire Council
South East	1	Bracknell Forest District Council
	2	Brighton and Hove City Council
	3	Buckinghamshire County Council
	4	East Sussex County Council
	5	Hampshire County Council
	6	Isle of Wight Council
	7	Kent County Council
	8	Medway Council
	9	Milton Keynes Council
	10	New Forest National Park Authority
	11	Oxfordshire County Council
	12	Portsmouth City Council
	13	Reading Borough Council
	14	Royal Borough of Windsor & Maidenhead
	15	Slough Borough Council
	16	South Downs National Park Authority
	17	Southampton City Council
	18	Surrey County Council
	19	West Berkshire Council
	20	West Sussex County Council
	21	Wokingham Borough Council
London (<i>East</i>)	1	Barking and Dagenham Council
	2	Bexley Council
	3	Bromley Council
	4	City of London

Aggregate Working Party Region	Map 1	Mineral Planning Authority
London (<i>East</i>) continued	5	Enfield Council
	6	Greenwich Council
	7	Hackney Council
	8	Haringey Council
	9	Havering Council
	10	Islington Council
	11	Lewisham Council
	12	Newham Council
	13	Redbridge Council
	14	Southwark Council
	15	Tower Hamlets Council
	16	Waltham Forest Council
London (<i>West</i>)	1	Barnet Council
	2	Brent Council
	3	Camden Council
	4	Croydon Council
	5	Ealing Council
	6	Harrow Council
	7	Hammersmith & Fulham Council
	8	Hillingdon Council
	9	Hounslow Council
	10	Kensington and Chelsea Council
	11	Royal Borough of Kingston upon Thames
	12	Lambeth Council
	13	Merton Council
	14	Richmond upon Thames Council
	15	Sutton Council
	16	Wandsworth Council
	17	Westminster City Council
East of England	1	Bedford Borough Council
	2	Broads Authority
	3	Cambridgeshire County Council
	4	Central Bedfordshire Council
	5	Essex County Council
	6	Hertfordshire County Council
	7	Luton Borough Council
	8	Norfolk County Council
	9	Peterborough City Council
	10	Southend-on-Sea City Council
	11	Suffolk County Council
	12	Thurrock Council
East Midlands	1	Derby City Council
	2	Derbyshire County Council
	3	Leicester City Council
	4	Leicestershire County Council
	5	Lincolnshire County Council
	6	North Northamptonshire Council
	7	Nottingham City Council

Aggregate Working Party Region	Map 1	Mineral Planning Authority
East Midlands continued	8	Nottinghamshire County Council
	9	Peak District National Park Authority
	10	Rutland County Council
	11	West Northamptonshire Council
West Midlands	1	Birmingham City Council
	2	Coventry City Council
	3	Dudley Metropolitan Borough Council
	4	Herefordshire Council
	5	Sandwell Metropolitan Borough Council
	6	Shropshire Council
	7	Solihull Metropolitan Borough Council
	8	Staffordshire County Council
	9	Stoke-on-Trent City Council
	10	Telford and Wrekin Council
	11	Walsall Metropolitan Borough Council
	12	Warwickshire County Council
	13	City of Wolverhampton Council
	14	Worcestershire County Council
North West	1	Blackburn with Darwen Borough Council
	2	Blackpool Borough Council
	3	Bolton Metropolitan Borough Council
	4	Bury Metropolitan Borough Council
	5	Cheshire East Council
	6	Cheshire West and Chester Council
	7	Cumberland Council
	8	Halton Borough Council
	9	Knowsley Metropolitan Borough Council
	10	Lake District National Park Authority
	11	Lancashire County Council
	12	Liverpool City Council
	13	Manchester City Council
	14	Oldham Metropolitan Borough Council
	15	Rochdale Metropolitan Borough Council
	16	Salford City Council
	17	Sefton Metropolitan Borough Council
	18	St. Helens Metropolitan Borough Council
	19	Stockport Metropolitan Borough Council
	20	Tameside Metropolitan Borough Council
	21	Trafford Metropolitan Borough Council
	22	Warrington Borough Council
	23	Westmorland and Furness Council
	24	Wigan Metropolitan Borough Council
	25	Wirral Metropolitan Borough Council
North East	1	Darlington Borough Council
	2	Durham County Council
	3	Gateshead Metropolitan Borough Council
	4	Hartlepool Borough Council
	5	Middlesbrough Borough Council

Aggregate Working Party Region	Map 1	Mineral Planning Authority
North East continued	6	Newcastle City Council
	7	North Tyneside Council
	8	Northumberland County Council
	9	Northumberland National Park Authority
	10	Redcar & Cleveland Borough Council
	11	South Tyneside Metropolitan Borough Council
	12	Stockton-on-Tees Borough Council
	13	Sunderland City Council
Yorkshire & the Humber	1	Barnsley Metropolitan Borough Council
	2	Bradford Metropolitan Borough Council
	3	Calderdale Metropolitan Borough Council
	4	City of York Council
	5	Doncaster Metropolitan Borough Council
	6	East Riding of Yorkshire Council
	7	Kingston upon Hull City Council
	8	Kirklees Metropolitan Borough Council
	9	Leeds City Council
	10	North East Lincolnshire Council
	11	North Lincolnshire Council
	12	North York Moors National Park Authority
	13	North Yorkshire County Council
	14	Rotherham Metropolitan Borough Council
	15	Sheffield City Council
	16	Wakefield Metropolitan Borough Council
	17	Yorkshire Dales National Park Authority
South Wales	1	Awdurdod Parc Cenedlaethol Bannau Brycheiniog (Brecon Beacons National Park Authority)
	2	Blaenau Gwent County Borough Council, Cyngor Bwrdeistref Sirol Blaenau Gwent
	3	Bridgend County Borough Council, Cyngor Bwrdeistref Sirol Pen-y-bont ar Ogwr
	4	Caerphilly County Borough Council, Cyngor Bwrdeistref Sirol Caerffili
	5	Cardiff Council, Cyngor Caerdydd
	6	Carmarthenshire County Council, Cyngor Sir Gar (Sir Gaerfyrddin)
	7	Ceredigion County Council, Cyngor Sir Ceredigion
	8	City and County of Swansea, Dinas a Sir Abertawe
	9	Merthyr Tydfil County Borough Council, Cyngor Bwrdeistref Sirol Merthyr Tudful
	10	Monmouthshire County Council, Cyngor Sir Fynwy
	11	Neath Port Talbot County Borough Council, Cyngor Bwrdeistref Sirol Castell-nedd Port Talbot
	12	Newport City Council, Cyngor Dinas Casnewydd
	13	Pembrokeshire Coast National Park Authority, Awdurdod Parc Cenedlaethol Arfordir Penfro
	14	Pembrokeshire County Council, Cyngor Sir Penfro (Sir Benfro)
	15	Powys County Council, Cyngor Sir Powys

Aggregate Working Party Region	Map 1	Mineral Planning Authority
	16	Rhondda Cynon Taf County Borough Council, Cyngor Bwrdeistref Sirol Rhondda Cynon Taf
	17	Torfaen County Borough Council, Cyngor Bwrdeistref Sirol Torfaen
	18	Vale of Glamorgan Council, Cyngor Bro Morgannwg
North Wales	1	Conwy County Borough Council, Cyngor Bwrseidref Sirol Conwy
	2	Denbighshire County Council, Cyngor Sir Ddinbych
	3	Flintshire County Council, Cyngor Sir y Fflint
	4	Gwynedd Council, Cyngor Gwynedd
	5	Isle of Anglesey County Council, Cyngor Sir Ynys Mon
	6	Snowdonia (Eryri) National Park Authority, Awdurdod Parc Cenedlaethol Eryri
	7	Wrexham County Borough Council, Cyngor Bwrdeistref Sirol Wrecsam

Sub-region (numbers relate to Map 5)	
1 Northumberland and Northumberland National Park	2 Tyne & Wear
3 Durham	4 Tees Valley
5 Cumberland and part of the Lake District National Park	6 Westmorland & Furness and part of the Lake District National Park
7 Lancashire, Blackpool and Blackburn with Darwen	8 Greater Manchester, Merseyside, Halton & Warrington
9 Cheshire West and Chester	10 Cheshire East
11 North Yorkshire, Yorkshire Dales and North York Moors National Parks	12 West Yorkshire
13 Humber (East Riding, North Lincolnshire and North East Lincolnshire)	14 South Yorkshire
15 Derbyshire and Peak District National Park	16 Nottinghamshire
17 Lincolnshire	18 Leicestershire and Rutland
19 Northamptonshire	20 Staffordshire
21 Shropshire and Telford & Wrekin	22 Remainder of West Midlands
23 Warwickshire	24 Worcestershire
25 Herefordshire	26 Norfolk
27 Cambridgeshire and Peterborough	28 Bedfordshire (Central Bedfordshire, Bedford and Luton)
29 Suffolk	30 Essex, Southend-on-Sea and Thurrock
31 Hertfordshire	32 Buckinghamshire

33 Milton Keynes	34 Kent
35 Medway	36 Oxfordshire
37 West Berkshire	38 Central & Eastern Berkshire
39 Hampshire, Portsmouth, Southampton, the New Forest National Park and part of the South Downs National Park	40 The Isle of Wight
41 Surrey	42 West Sussex and part of the South Downs National Park
43 East Sussex and Brighton & Hove and part of the South Downs National Park	44 West London
45 East London	46 Gloucestershire
47 West of England	48 Wiltshire
49 Somerset and Exmoor National Park	50 Dorset and Bournemouth, Christchurch & Poole
51 Devon and Dartmoor National Park	52 Cornwall & Isles of Scilly
53 North East Wales	54 North West Wales
55 South East Wales	56 Remainder of South Wales

Appendix M – Local Planning Authorities and AM2023 regions in Scotland

AM2023 region	Map 3	Local Planning Authority
Argyll & Bute	1	Argyll & Bute Council
Ayrshire Authorities	1	East Ayrshire Council
	2	North Ayrshire Council
	3	South Ayrshire Council
Comhairle nan Eilean Siar / Western Isles	1	Comhairle nan Eilean Siar (Western Isles)
Dumfries & Galloway	1	Dumfries and Galloway Council
East Central Scotland	1	City of Edinburgh Council
	2	East Lothian Council
	3	Fife Council
	4	Midlothian Council
	5	Scottish Borders Council
	6	West Lothian Council
Forth Valley	1	Clackmannanshire Council
	2	Falkirk Council
	3	Stirling Council
Highland	1	Highland Council
North East Scotland	1	Aberdeen City Council
	2	Aberdeenshire Council
	3	Moray Council
Orkney and Shetland Islands	1	Orkney Islands Council
	2	Shetland Islands Council
Tay Area	1	Angus Council
	1	Dundee City Council
	3	Perth and Kinross Council
West Central Scotland	1	East Dunbartonshire Council
	2	East Renfrewshire Council
	3	Glasgow City Council
	4	Inverclyde Council
	5	North Lanarkshire Council
	6	Renfrewshire Council
	7	South Lanarkshire Council
	8	West Dunbartonshire Council
National Parks		Cairngorms National Park Authority
		Loch Lomond & The Trossachs National Park Authority